

AD 741049

FSTC-HT-25-1-12-7

ARMY MATERIEL COMMAND
U.S. ARMY
FOREIGN SCIENCE AND TECHNOLOGY CENTER



Tanks Under Water

By

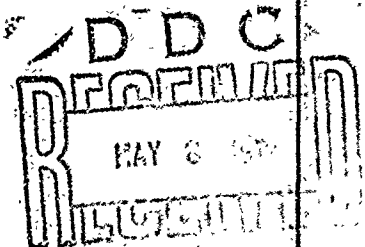
P. I. Karpenko, V. S. Lyndin

Subject Country: USSR

*This document is a rendition of the
original foreign text without any
analytical or editorial comment.*

Reproduced by
NATIONAL TECHNICAL
INFORMATION SERVICE
Springfield, Va. 22151

Approved for public release; distribution unlimited.



UNCLASSIFIED

Security Classification

DOCUMENT CONTROL DATA - R & D

(Security classification of title, body of abstract and indexing annotation must be entered when the overall report is classified)

1. ORIGINATING ACTIVITY (Corporate author) Foreign Science and Technology Center US Army Materiel Command Department of the Army		2A. REPORT SECURITY CLASSIFICATION Unclassified	
3. REPORT TITLE TANKS UNDER WATER		2B. GROUP	
4. DESCRIPTIVE NOTES (Type of report and inclusive dates) Translation			
5. AUTHOR(S) (First name, middle initial, last name) P. I. Karpenko, V. S. Lyndin			
6. REPORT DATE 28 December 1971		7A. TOTAL NO. OF PAGES 95	7B. NO. OF REFS N/A
8. CONTRACT OR GRANT NO.		9A. ORIGINATOR'S REPORT NUMBER(S) FSTC-HT-23-1442-71	
9. PROJECT NO. T702301 2301		9B. OTHER REPORT NO(S) (Any other numbers that may be assigned this report) ACSI Control Number K-0514	
* Requester Mr. Micham AMXST-CM			
10. DISTRIBUTION STATEMENT Approved for public release; distribution unlimited.			
11. SUPPLEMENTARY NOTES		12. SPONSORING MILITARY ACTIVITY US Army Foreign Science and Technology Center	
13. ABSTRACT Military tactics and tank crew training of the Soviet Armed Forces on overcoming water barriers during a combat operation, particularly the study of underwater crossings.			

DD FORM 1473

REPLACES DD FORM 1473, 1 JAN 66, WHICH IS OBSOLETE FOR ARMY USE.

UNCLASSIFIED
Security Classification

UNCLASSIFIED

Security Classification

14. KEY WORDS	LINK A		LINK B		LINK C	
	ROLE	WT	ROLE	WT	ROLE	WT
Military Operation						
Military Tank						
Underwater Ordnance						
Air Drop Operation						
Military Strategy						
Army Operation						
Armored Tactic						
Nuclear Warfare						
Armored Vehicle						
Combat						
Stream Crossing						
Bridge						
Tank Crew Training						
Underwater Swimmer						
Military Personnel						
Tactical Training						
COSATI Subject Code: 05, 15, 19						
Country Code: UR, GE						

UNCLASSIFIED

Security Classification

TECHNICAL TRANSLATION

FSTC-ST-29-144-73

ENGLISH TITLE: TANKS UNDER WATER

FOREIGN TITLE: TANKI POD VODOY

AUTHOR: P. I. Karpenko, V. S. Lyndin

SOURCE: Military Press of the Soviet
Defense Ministry
August 12, 1970

Translated for FSTC by ACSI

GRAPHICS NOT REPRODUCIBLE

NOTICE

The contents of this publication have been translated as presented in the original text. No attempt has been made to verify the accuracy of any statement contained herein. This translation is published with a minimum of copy editing and graphics preparation in order to expedite the dissemination of information. Requests for additional copies of this document should be addressed to Department A, National Technical Information Service, Springfield, Virginia 22151. Approved for public release; distribution unlimited.

This translation was accomplished from a xerox manuscript. The graphics were not reproducible. An attempt to obtain the original graphics yielded negative results. Thus, this document was published as is, in order to make it available on a timely basis.

TANKS UNDER WATER

**Petr Ivanovich Karpenko
Vladimir Stepanovich Lyndin**

Tanks Under Water

Editor	V. G. Kurgan
Literary Editor	A. P. Ivanova
Artist	V. P. Afanas'yev
Art Editor	V. N. Klyuyeva
Technical Editor	N. Ya. Makarova
Proofreader	L. N. Zhadobina

Military Press of the Soviet
Defense Ministry

August 12, 1970

Table of Contents

	Translation page	Original page
Attention, Water Mine!	1	3
Sovereign Mining Machines	13	17
Every Tanker Is a River	30	40
Tanks Under Water	46	63
14 Lessons As In Battle	68	94

ATTENTION, WATER LINE!

Dawn rose, but the opposite shore could hardly be seen. Fine, irritating rain was falling and a gray shroud blurred the sleeping conifers in the trees at the riverside grove where the tanks stood. Guns coughed dully; bursts of machine gun fire were distinctly heard. Over the heads of the tankers swept fighter-bombers. Following them appeared the silhouettes of mighty air-ships. Upon approaching the landing zone, the first parachute units jumped out. They opened automatic fire and hurled hand grenades. The huge hots of multiple parachutes supplied military equipment. Soldiers of parachute units rapidly abandoned the transport planes. Lowered to the ground, they instantly set to fighting with the "enemy."

Engineer subdivisions completed reconnaissance of water barriers. They began commandant's service. The tankers moved out toward the water route.

"Comrade General, all is ready for bridging the river," reported the commander of the unit of "Easterners."

"Good!" answered the general, moving toward the shore.

During the night the tankers had gathered and marched swiftly to the interior of the enemy operational area. However, they still had not overcome material problems. The projected front had not been reached. The subsequent path of the tanks was blocked by the wide river. In the years of the Patriotic War such obstacles could delay tankers for a long time. This was all the more true since bridges and ferds did not exist in this area, and the pontoon trains lagged behind the tanks. It was another matter now, since the tremendous growth of the military capability of the Soviet tank forces during the later war years. Having quickly evaluated the situation, the old commander decided: force the river with tanks under water. This gave the advantage in time to the "Easterners." Moreover, she had reached or lied to the water obstacle and apparently intended to turn the river into a durable defensive line.

The engineers' reconnaissance of the river and preparation of the tanks of the "Easterners" for underwater movement occupied comparatively little time. A red rocket shot up. Over the radio came the command: "Forward!" One after another the huge standing masses moved across the river. Waves washed over their turrets, and only protruding ventilation pipes bore witness to the underwater approach of the tanks.

A few minutes passed, and on the opposite shore, as if born of water, emerged the tanks of the "Easterners." Pipes pulled off, covers removed, the formidable machines rushed forward to join with the air landing, capturing an important road junction in the rear of the "Westerners"...

The experience of tactical knowledge gives many examples of attempts to find better ways of conducting war, more nearly perfect methods of crushing opponents. Of paramount importance in this regard is heightened rate of the offensive, increased speed of troop movement, as well as the intensification of blows through all available means in full-scale war.

Offensive tempo. How important in contemporary warfare, in the age of nuclear rocket weaponry, has the factor of time in relation to communications and fundamental changes in military matters become! Experience accumulated by the Soviet Army in former wars shows that absolute crushing of the enemy is attained thanks to resolute attack by our troops, conducted, as is correct, at high speed. This conclusion of Soviet forces is confirmed by the magnificent military actions in the years of the civil and Great Patriotic Wars. In the concluding stage of the Patriotic War against fascist Germany, for example, our tank formations moved in battle at speeds up to 50km in a 24-hour period. In separate days in the operative interior of hostile areas, Soviet tankers surpassed 100km in a 24-hour period. Such a pace was achieved by the Sixth Tank Army during the Yassko-Kishinevskiy Operation and by the Second Guards Tank Army during the breakthrough from the Visli to Odoru areas.

Anglo-American forces during the Second World War, in spite of weak resistance of the enemy, were unable to attain such a rapid rate.

Military experience demonstrates that the high pace of attack created an advantage for our forces and complicated the actions of opponents. This factor caused the breakup of opponents into detached, isolated units, depriving them of the chance rationally to use their strength, and aided us in our moment of need to consolidate our strength in advantageous positions, attain victory in a short time, and, with the least loss of personnel and equipment.

The great importance of conducting military action at high speed was noted by V. I. Lenin. "Offense against the enemy should be the most energetic..." he wrote in the work Uroki moskovskogo vosstaniya (Lessons

1 V. I. Lenin. Complete Works, Vol 13, p 376.

of the Russian Uprising). "It is necessary to fight for the first success and go from success to success, not breaking off the attack on the enemy, driving them to confusion..."² shows V. I. Lenin in the letter of the CC RSDFP (b).³ In the article "Uderahat li bol'sheviki gosudarstvennyu vlast'?" ("Will the Bolsheviks Hold Government Power?"), the leader of the party writes: "It is necessary to seize opponents unexpectedly...it is necessary to strive fully for new, though perhaps small, successes; it is necessary to retain moral superiority...it is necessary to force the enemy into retreat..."⁴

In telegrams to commanders and members of the revolutionary war council fronts in the civil war years, V. I. Lenin insistently demanded rapid and resolute blows on the enemy: "In all cases pursue retreating forces, attack them, give them not an hour, not a minute of rest."⁴

In resolute and sudden action, in the high tempo of attack, and in persistent pursuit, V. I. Lenin saw a guarantee of rapid defeat of the enemy. Inestimable is the value of Leninist military theory to the theory and practice of military affairs under contemporary conditions. Leninist ideas, proved in the fire of civil and Patriotic Wars, found reflection in Soviet military doctrine, in military regulations, in military programs and political preparations.

The appearance of nuclear rocket weapons raises the mechanization and motorization of forces; the introduction of radio-electronics in all phases of life and actions of the army and navy has raised even higher the importance of the rate of attack, the faster of time for attaining victory in contemporary war. Forestalling the plotting of nuclear strikes by the enemy, faster attainment of important lines, earlier destruction of enemy in battle contact, outstripping them at the approaches of rivers, its successful forcing, and the constant advance - all this depends on the correct usage of the factor of time. "He who moves faster will win," goes a soldier's saying. A slow tempo leads to inefficiency by the attackers, troop congestion - creating favorable conditions for enemy nuclear strikes, which leads to excess losses in manpower and military technical equipment and threatens the fulfillment of military missions.

The important influence of the tempo of progress of the offensive forces on the fulfillment of the military mission is directly related to the forcing of water barriers.

Readers apparently have never noticed that many frontline soldiers, when asked about the paths of their units, remember above all the fundamental battles at water lines: Volga, Dnieper, Bug, Priester, Vistula, Narva, Shiroky. Such an answer helps us to understand how long and arduous was the frontline roadway of battles for freedom and independence of our Homeland. The Great Patriotic War clearly showed that water obstacles

² V. I. Lenin. *Poln. sobr. soch.* (Collected Works), Vol. 24, p. 242.

³ Op. cit., p. 335.

⁴ V. I. Lenin. *Voyennaya perislika* (War Correspondence) (1917 - 1920). Moscow, Voenizdat, 1956, p. 221.

⁵ The Russian Social Democratic Workers' Party (of Bolsheviks) Central Committee.

were not only serious natural impediments for infantry and tanks but also sites of violent and bloody battles.

The year 1941. From the west came violent war. Soviet tankers occupied military positions and ferds. Together with infantry companies they fought violent battles with superior enemy forces for over 24 hours at a time. Attack after attack of Hitler's troops came. The number of fascist dead grew. But our lines also grew thin. On the opposing shore lay only one tank crew, of sergeant A. Borisov. Skillfully and bravely the crew fought. For 32 hours he held the crossing. In single combat the Soviet tankers triumphed. Steadfastly and with courage and military skill displayed in this battle Master Sergeant A. M. Borisov - alone among the best tankers - was awarded the Hero of the Soviet Union Medal.

The battle to force a crossing of the Dnieper River was bloody. Fascist German commanders believed that our forces could successfully be delayed at the Dnieper and finally bled to death. After defeat at the Kursk Bulge the Hitlerians strengthened the right shore with a powerful deployment, but this did not save them from destruction.

Having some hundreds of kilometers to war only a week earlier, the valiant forces of the Soviet Army contemplated the Dnieper. Reconnaissance sub-units and an advanced detachment of the Third Corps of the Guards Tank Army first reached the river on September 21, 1943. General G. Ribalko (51st Guards Tank, 69th Mechanized and 54th Guards Tank Brigades) was the commander.

Here, on the left shore of the Dnieper, our tankers met signs of enemy destruction everywhere. Hitlerian forces succeeded in blowing up all the crossings they had held before their withdrawal.

In this situation, the front commander army general N. F. Valutin appealed to his personnel at the front with the call to force across the Dnieper no matter what, not to allow the enemy time to consolidate themselves on the right bank, to fulfill their military duty for the Homeland with honor.

In order to resolve this problem, the military front command was faced with the necessity of reconnoitering the right bank and capturing bridgeheads at Zadneprob'ye with advance units.

To fulfill this primary task, during the night of September 22 in the area of Grigorovski (12km south of Pereyaslav), the Dnieper was forced by an element of the 51st Guards Tank Brigade. The first to cross were four of the courageous men of this war - N. Petukhov, I. Semenov, V. Sisolyatin, and V. Ivanov. These were the youngest Komsomol members of the brigade, who volunteered to be the first to cross the Dnieper. This group, led by N. Petukhov, was entrusted to force the Dnieper under the cover of night, to reconnoiter the western shore and to attract to themselves the attention of the enemy in order to ensure that the main force could cross.

Four bold spirits reached boats and, unnoticed by the opposition, with the help of partisans, crossed the wide Dnieper opposite Grigorovsk

at dawn on September 22 under heavy fog. Secretly approaching the enemy, they joined in unequal battle with the outposts, attracting the enemy's attention to themselves. At the same time on the other side, several more groups of fighters improvised means to cross to the western shore, and behind them the rest of the forces crossed the Dnieper. When day came the troops of Hitler began bombing the crossing at Grigorovka and counterattacked, but the 51st Guards Tank Brigade gained a toehold on a small patch of land on the western shore of the Dnieper and stood until death, repelling several furious enemy attacks.

A decree of the Presidium of the Supreme Soviet of the USSR came down concerning the four Komsomol members, Nikolai Petukhov, Ivan Sazanov, Vasili Sisolyatin, and Vasili Ivanov, who first made the forced crossing of the Dnieper: they were awarded the high honor Hero of the Soviet Union.

The news of the first heroes of the Dnieper of the 51st Guards Tank Brigade flew with lightening speed not only through the tank forces but all over the front.

The front high war council evaluated the exploits of the guards tankers and sent them a congratulatory message in which was stated: "Our heroic crossing of the Dnieper, tenacious consolidation on the right bank, readiness even at the cost of their lives to defend each piece of contested homeland soil and indomitable moving forward - toward the west - gives an example to all fighters..."

Our thanks to the honorable service of the soldiers. We wish them the greatest of military successes."¹

This congratulatory message from the War Council was read in all units and areas of the front. It was a message of pride of all personnel in their comrades which raised even higher the offensive spirit of our forces. Soviet fighters vowed in these days to battle with the enemy just as the Komsomol heroes of the Third Guards Tank Army had fought.

Another example.

...The tank crew of Lt. Yu. M. Sagaidachnyy of the 183rd Tank Brigade, which crossed the Dnieper in the Pereyaslav-Yashnik region, joined in the unjust battle with the Hitlerians and destroyed several enemy weapons emplacements, preventing the advance of infantry units. When our first tank appeared on the Zadneprobskiy Beachhead, the fascist planes started to hunt it. Several other war machines quickly joined this tank. In one of the hot battles Yuri Sagaidachnyy was seriously wounded, but, ignoring this, he did not cease fighting. In view of the success of crossing the Dnieper, consolidating on the beachhead, and displaying courage and heroism, the tank commander Lt. Yu. M. Sagaidachnyy and the mechanic-driver

¹ Istoriya Velikoy Otechestvennoy voyny Sovetskogo Soyuza 1941 - 1945. (History of the Great Patriotic War of the Soviet Union). Moscow, Voenizdat, 1964, p 324.

N. K. Pukhodko were made Heroes of the Soviet Union. Loader L. P. Onipchenko and gunner-radician G. I. Yeliseyev received high government decorations.¹ Greatness of spirit, mass heroism, military expertise by the fighters, commanders, political workers enabled us to win the battle at the Dnieper. For forcing the Dnieper and the selflessness and heroism in battle at beachheads, 2438 soldiers of all kinds were awarded the Hero of the Soviet Union medal.²

In almost all the offensive operations against the fascist German aggressors, tank forces of the Soviet Army overcame great water obstacles. In Belorussian operations, for example, our tankers were obliged to make forced crossings of six rivers, in Lvov-Sandomirskiy of seven, and in Vislo-Oderskiy operations the Second Guards Tank Army forced more than 40 different water barriers, including such powerful ones as the Oder, in 16 days of military action. Characteristically, in most cases, our troops forestalled the enemy in capturing water obstacles and forced their way across in a rush or after brief preparations.

Wooden bridges were normally constructed or pontoon bridges were laid out to enable tanks to overcome water fronts - usually under enemy fire. Much building material, a great deal of time, and many troops were required for this. It was not unusual that the enemy would succeed in destroying a completed bridge. Then the offensive requirements had to be met again from the beginning.

Taking into account the complications of forced crossings of water obstacles, the General Headquarters published a special directive for the troops. In it was emphasized the growing importance of rapid river crossings for fast movement of the offensive; the directive provided for methods of encouragement such as displays at water fronts of heroism, audacity, valor, skill. Thus were directions for crossing rivers cultivated and distributed.

It is fully natural that in the moment of the arising of tank forces, the creative research efforts of many of our scientists, builders, engineers, technicians, and commanders were directed to the resolution of problems related to the rapid overcoming by tanks of water obstacles. Special crossing methods were developed and examined. Much attention was given to developing tank methods of floating and moving under water.

The first tests of tank adaptation for underwater movement began in 1934. From that time similar experiments with soldiers were continued.

Although prewar standards of Soviet tanks did not require adaptability for underwater movement, there were nevertheless military situations when

- 1 See 50 let Vooruzhennikh Sil SSSR. (50 Years of the USSR Armed Forces) Moscow, Voenizdat, 1968, p. 374.
- 2 See Volikaya Otechestvennaya voina Sovetskogo Soyuza 1941 - 1945. Kratkaya istoriya. (Great Patriotic War of SU. Short History. Moscow, Voenizdat, 1970, p. 267.

tankers crossed rivers in daylight in their own machines.

Operating in the advanced detachment of the 52nd Tank Regiment, 7 tanks succeeded in crossing the Southern Bug River in March, 1943. They crossed under water in the area of the village of Shumilovo.¹

October, 1943. Southern and northern Kiev were destroyed by violent battles. On the Dukrinskiy Bridgehead tank general Ribalko's tank forces and the troops of other companies joined in combat with five times as many infantry, twice as many motorized, and three times as many tank troops of Hitler's forces, inflicting great losses upon them. In the same period in the northern capital of the Ukraine infantry units of the 38th Army captured a beachhead from the enemy on the shore of the Dnieper. The enemy began attacking furiously to take the position of our forces.

In view of the situation that was taking shape, the War Council of the front reinforced the 38th Army from their reserves in the 5th Guards Tank Corps of General A. G. Kravchenko. The corps was supplied with the task of forcing the Dnieper in the region of the 51st Infantry Corps at Lyutezk and, jointly with its units, of widening the beachhead until a turning movement around Kiev to the northwest had been carried out. During the implementation of this mission, the corps, commanded by front general Kravchenko, overcame the complex Desna River approaches to the Dnieper and showed that "building bridges across this water obstacle for the transportation of freight will require at least eight to 10 days. This may result in an important omission - timeliness of support of the advance units of the 38th Army in the beachhead. The front command recommended finding a way of overcoming the Desna ford with tanks."¹

In accordance with orders and directions of the front command, immediate preparations of the corps elements for military action were begun. They could not linger. The Desna River in the area of the prospective forcing was 280m wide and up to 2m deep, so it was necessary to outfit the T-34 tanks with special equipment to cross under water. The personnel of each corps element displayed initiative and ingenuity in preparing each tank. Shutters and every chink in the tanks were covered by the efficient, thorough greasing with solidol.* In some units floating air scoops with corrugated hoses were installed, providing access for air to the tank even if it were fully submerged and, for eliminating exhaust, exhaust pipes were attached to tarpaulin hoses. It took from six to eight hours to prepare the tanks. A great

1 Arkhiv MO SSSR (Archives of the Ministry of Defense of the USSR), photograph 240, List 35393, film 1, sheet 24 - 25.

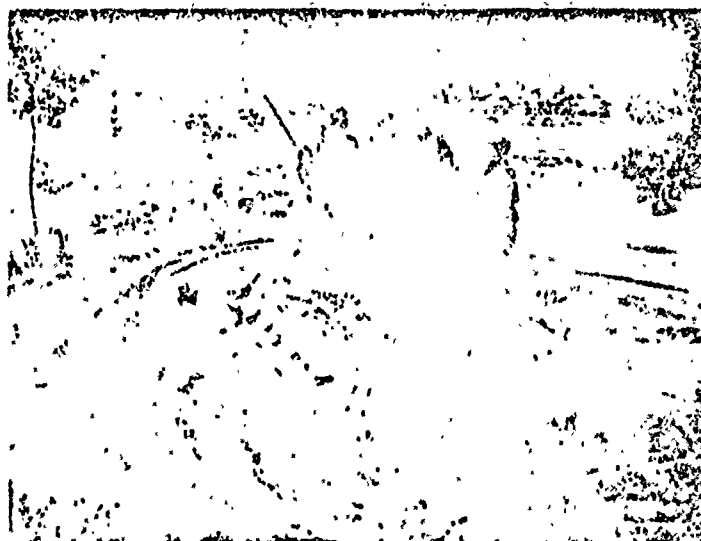
1 See "Voyenno-istoricheskii zhurnal" (Magazine of Military History), 1963, No 9, p 63.

* TH: mineral oil thickened with calcium soap.

deal of work took place with driver-mechanics, who were given instructions on underwater driving and particularities of using tanks under these conditions.

The tank corps crossing of the Deseu began at dawn, October 4, one kilometer south of Lotka, where a deep ford was designated by 2 rows of markers. Movement of the tanks took place in first gear with a constant speed of 7 kmph. Driver-mechanics led the tanks by azimuth, strictly carrying out the orders of the tank commanders, who communicated with the crew by radio. In crossing the river up to 200 liters of water leaked into each tank, but this did not prevent normal functioning of the tank. As they emerged in the assembly area on the opposing bank, the tanks stopped on the shore, stern down and threw ventilation pipes into the water. By the middle of the day 65 tanks had crossed. Each tank required about seven minutes for the crossing, while it would have taken about an hour by ferry. Underwater-moving tanks were the first type of Soviet armor to succeed in overcoming such wide water barriers.

Reproduced from
best available copy.

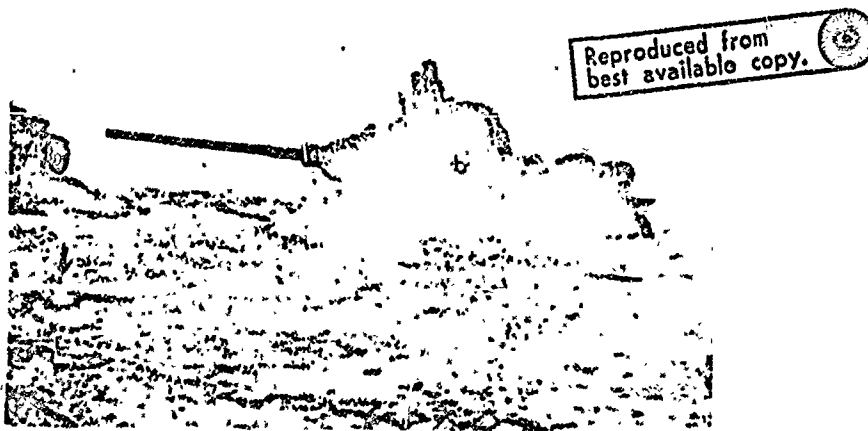


Soviet tank with a landing force of sub-machine gunners moves across the Dniester in the spring of 1944

After crossing the Deseu the corps moved to the Dniester on the same day and, during a period of 2 nights, took a beachhead on four forryings across the Dniester under the cover of larger units. The situation of our defensive forces on the beachhead at this time significantly improved. As soon as units of the Fifth Guards Tank Corps crossed to the western bank, they began fighting. During October the beachhead north of Kiev was widened along the front and deepened because of military action by the Fifth Guards Tank Corps. In battles

on the beachhead the 20th Guards Tank Brigade of Col S. F. Shutorv especially excelled. For organization of the forcing of the Dnipro and Dnieper, boldly and resolutely controlling his units in battle, he was awarded the Hero of the Soviet Union medal. The beachhead created by the forces of the 38th Army with the Fifth Guards Tank Corps north of Kiev in the area of Lyutezh entered the history of the Great Patriotic War under the name of Lyutezh. With the establishment of the beachhead here was dealt a major blow of the Kiev operation.

In the spring of 1944 the First Guards Tank Brigade successfully crossed the deep ford of the Dniester at the village of Ustsozhko after a march of many kilometers.¹



Reproduced from
best available copy.

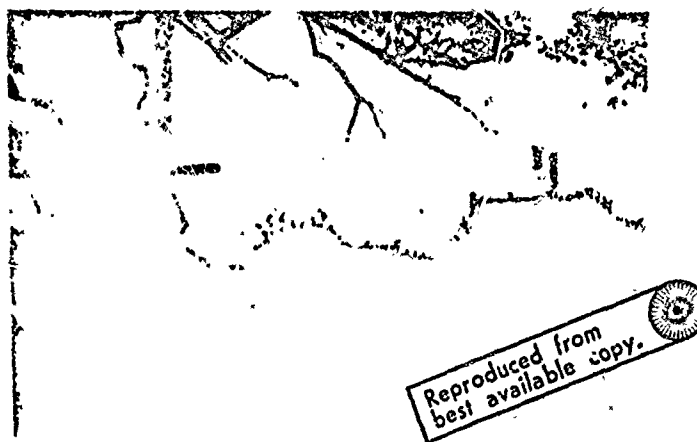
Units of the 44th Guards Tank Brigade
force the Pilitsa River in the winter
of 1945

The attempt to cross the Vistula under water was undertaken by the 16th Tank Corps. It was an attempt made up of separate crossings by tanks under water and past other water obstacles.

However, the absence of specialized tank equipment prevented this method of overcoming water barriers on a large scale. The preparations

¹ See "Zhurnal brentankovykh i mekhanizirovannykh voyesk" (Journal of Armored and Mechanized Forces), 1945, No 10 - 11, p 19.

for forcing water lines with tanks under water or through deep fords, as a rule, occupied considerable time.



Before the storming of Berlin. Soviet tankers cross the Shiro.

With communications that were imperfect and a lack of technical means for underwater tank movement, tank forces were not prepared for independent crossings of wide rivers and did not always succeed in reaching a high pace of forcing rivers or of surprise upon leaving water lines. The enemy frequently succeeded in bringing up reserves and organizing defense. Crossing rivers under enemy fire demanded great effort and often was accompanied by severe losses.

Therefore, in the post-war period, the problem of forcing water crossings by tanks in our army has been met by an attempt to solve it through perfection of the tanks, giving to them such qualities as would allow military machines to be less dependent on engineering forces.

Taking into consideration the important role of tank forces in nuclear rocket warfare, the Communist Party and Soviet government have displayed regular concern that these forces have the highest level of technical development possible, including flexible and proportional organization, and that their personnel perfectly possess contemporary techniques and be of high moral-political and military quality. Thanks to the correct military-technical politics of the CPSU, the achievements of science and technology, the successes of industry, and the heroic work of the Soviet people, tank forces of the Soviet Army are now equipped with techniques which answer the demands of contemporary full-scale warfare to the fullest.

Tank forces, along with rocket units and combined operational-tactical units, represent the important striking power of land forces. They have a high operational - tactical mobility, possess great firepower, are capable of surpassing water obstacles by day. Soviet constructors have created equipment necessary for underwater tank driving.

As is generally known, the question of tanks crossing water barriers is constantly in the center of attention in the armies of capitalist governments as well. From the facts published in the foreign press, it is known that in the armies of the USA, FRG, and other countries of NATO, the problem of rapid crossing of water obstacles by tanks is also being resolved along the lines of adapting tanks to underwater locomotion. Let it be noted that the American T-60 and the West German "Leopard" already have equipment for underwater movement.

Our commanders, politicians, engineer-technicians, and scientific ranks are constantly concerned to preserve excellence in this area of military affairs; tank force personnel are consistently taught various methods of crossing water lines. Crossings of tanks and military underwater techniques in combination with other views of crossings greatly augmented the ability of units and tank forces to force water obstacles rapidly and appear as important means of moving at high speeds to attack in contemporary war.

The tactical studies "Dnioper" and "Dvina", along with a study by the Warsaw Pact armies "Brotherhood Under Arms" and many other again confirm that overcoming water obstacles is as before one of the basic tasks of the offensive. Together with accumulated experience, these studies show that now, thanks to the availability to forces of floating techniques and equipment and means by which tanks can cross rivers by day, our units can rapidly overcome water obstacles independently, not slowing the rate of advance.

All tank crews and units must perfectly master underwater driving. In this regard new trends such light diving preparations and mastery of underwater driving exercises have appeared to further preparations of tanks for war. Military maintenance and field-engineer units learn evacuation and rescue duties, medical workers study the basis of "diving medicine."

Widening of the limits of military preparations of tank forces has required new tasks and, first, party-political work. From commanders, political workers, party and komsomol organizations, it was demanded, there must be constant concern for raising of the quality of light diving preparations, submarine driving, and careful investigation into the causes of occurrences of hydrophobia, and investigation into more effective forms of educating forces in high political morals, and in psychological and military qualities.

Military activities of our forces, their tense training days irrefutably confirm that the high conscientiousness of Soviet troops, their

communist convictions strikingly appear in party principles and class appreciation, in the irreconcilable attitude to any displays of bourgeois ideology, in political vigilance, in model fulfillment of their official duties, in exemplary military discipline and excellent battle training.

SOVEREIGN MENACING MACHINES

The decorated Guards Tank Brigade, which was commanded in the years of the Patriotic War by the two-time Hero of the Soviet Union and now general of the Army I. I. Gusekovskiy, passed through the glorious war trail from Moscow to Berlin. A great quantity of destroyed manpower and machinery of the enemy and the liberation of ten towns and settled areas can be credited to its account. During the years of war the tank brigade forced many water obstacles, among which were the Dniester, Western Bug, Vistula, and Oder. Each time they displayed infinite devotion to the Homeland, high military skill, determination, valor, and mass heroism. One of those battle episodes, the action of the brigade at the Vistula-Oder operation in 1945, has been clearly described by the writer B. Galin in the work Officer of Tank Forces.

"...At 2:00 p.m. Col. Gusekovskiy and all the brigade with attached self-propelled arms, division rocket-artillery weapons, battalion motorized infantry, field engineers, means of communication, prepared strength of infantry and artillery achieved a breakthrough. He entered, as tankers say, 'a clean breakthrough.' And this was a good sign - conserving the striking power of the advanced detachment and the high state of the morale and military factors.

A box with sand, games, studies on the theme of engagement of tanks in a breakthrough is one thing; the dynamics in reality are another. One can study the great number of probable variations of battles 1000 times and still 'go sour' when the battlefield situation suddenly changes from the normal.

It was supposed that the tanks on the Pilitsa River would prepare a bridge for crossing. But the movement of the tanks was so rapid that they entered the river earlier than the planned battle date. The bridge was built under enemy fire. Major Karabanov (commander of the tank battalion, major, Hero of the Soviet Union - Editor's Note) tried to send the tanks over the ice. Three tanks fell through - the ice was weak. Karabanov was terribly embittered. He was without warm overalls, in a sweater. His face was purple with rage and mortification: just to begin the breakthrough and already a delay!

Gusekovskiy decided: it was necessary to blow up the ice and send the tanks across the ford.

It was done. Automatics, busy on the western shore, rained fire, driving back the enemy. And the tanks, working their way down the sloping shore, entered the black, smoky water, pushing through the ice, which, rustling, ground against the iron sides of the machines. Cold water penetrated the observation slits hitting the driver's hands. Managing to make it to the enemy shore, the tanks shook the water off and swung into battle.

Karabanov himself quavered, not trousers frozen, but, as if not feeling the cold, he stood on the shore until every tank in the battalion had crossed the river. And Karabanov himself and Gushakovskiy considered this the way things must be done. So they must..."¹

Having accomplished the raid on the enemy rear and having destroyed their reserves, the tank brigade rapidly left for the approaches to the Oder, along with other offensive units of the Soviet Army, forced this great water barrier, and rushed to Berlin.

Not only tankers but millions of Soviet soldiers at the front in all phases of the war battled in this manner in our Armed Forces. In battles against the German fascist invaders, they demonstrated miraculous, unequalled bravery, mastery, valor, and heroism, excellent military training, unusual physical endurance. Blood flowed, and then Soviet soldiers took victory from the powerful enemy. Our soldiers "had the direct look of mortal danger in their eyes, displayed superior military valor and heroism," writes Marshal of the Soviet Union G. K. Zhukov. "There are no limits to the greatness of their exploits in the name of their Homeland. Soviet soldiers deserve to be remembered for ever by grateful mankind."¹

At the base of the high moral-political and military qualities of the forces at the front was the conviction of righteousness of Leninist teaching and socialism; the truth and justice of the goals of the war of liberation; the devotion to the Communist Party, to the Soviet homeland. The commanders, political workers, the party and komсомол war forces prepared to fulfill war tasks, to achieve the feats described here. In the process of many-sided ideological and organizational work, they developed into skillful and knowledgeable defenders of the Homeland. "Either it is the concrete fact of heroism or it is coincidence which passes for heroism," said M. I. Kalinin at this time, "but people who accomplish heroic deeds can utilise those fortuitous coincidences because physically, psychologically, morally, and politically, they were prepared for the display of heroism."²

1 Boris Galin. Doyobuyushtaya armiya. (Action Army.) Moscow, Voenizdat, 1958, pp 375 - 376.

1 G. K. Zhukov. Vospominaniya i razmyshleniya. (Recollections and Meditations.) Moscow, Novosti Press Agency, 1969, p 730.

2 M. I. Kalinin. O kommunisticheskoy vospitani. (On Communist Education.) "Molodaya gvardiya," (Young Guard), 1956, p 366.

This conclusion has maintained its significance into our day.

Under conditions when aggressive circles in the US and other imperialist governments speed up the arms race and develop new breeding grounds of predatory war in Asia, Africa, and Latin America, and prepare for nuclear war against the countries of the world socialist system, we must as never before reinforce our moral-political and psychological preparations of personnel of our army, tirelessly strengthen the ideological convictions of Soviet troops, heighten their physical toughness and perfect their military prowess.

In contemporary war our enlisted men, sergeants, and officers will battle against powerful and insidious enemies, endure severe burdens and deprivations which demand the utmost efforts of all their moral and physical powers. And in order to express, as Lenin said, "not to give oneself to demoralization, disorganization; to continue soberly estimating the situation; to preserve courage and firmness,"¹ each Soviet soldier must be ready to act skillfully and selflessly in all types of complicated military conditions.

What moral-political and military qualities are needed by tankers in particular for successful fulfillment of military duties? Now, for example, can tankers be better prepared for forced crossings of water barriers in tanks?

The rich military experience of our Armed Forces teaches that the decisive qualities of Soviet forces were, are, and will be their steadfast ideological conviction, and their high communist consciousness. The ideologically conscious soldier does not give up confidence in triumphal communist ideals for a minute even in the most severe tests; he battles and sacrifices his blood and, if demanded, his life.

During the years of the Great Patriotic War, when the troops of Hitler offered, as though it were no infringement on the man's ideological attitude, to give Soviet General D. M. Karbyshev a position in their army as engineer-fortifier, he steadfastly declared: "My convictions do not shed their teeth from a lack of vitamins in camp rations...I took upon myself the duty of a communist...And under all conditions - resolutely under all - I will preserve my honor and party faith for they are not illusions."²

Every Soviet patriot acts like this.

The foundations in soldiers of communist convictions and other

1 V. I. Lenin. Poln. sobr. soch., (Collected Works,) vol. 44, p. 229.

2 Marxism-Leninism - yedinye internacional'noye ucheniye. Vynuk vtoroy. Marxizm-Leninizm - Common International Doctrine. Second Edition. Moscow, Politizdat, 1968, p. 78.

necessary qualities are the constant rise of their political consciousness; profound study of Marxist-Leninist theory and of the great legacy of K. Marx, F. Engels, V.I. Lenin, the CPSU Party Platform, decided upon by a conference of the party and a plenary session of its Central Committee, and documents of the International conference of communist and labor parties. Leninism is fundamental to the education and ideological training of Soviet forces. Soldiers, sailors, sergeants, and officers see in Lenin the model of faith and selfless devotion to the working man's needs. Raising of consciousness in the troops is promoted by a knowledge of the revolutionary and heroic history of the party, people, military traditions of the Soviet Military Forces, and by demanding military oaths and regulations. "The development of mass consciousness," showed V. I. Lenin, "remains, as always, the base and substance of all our work."¹

American imperialists and their allies of the aggressive bloc are continuing furious armaments race, strenuously widening the front of ideological sabotage, striving to work their pernicious ideology into the socialist countries and, with the aid of their armed might, they are attempting the ideological disarmament of the population and army personnel of the forces of socialist countries so as to undermine their defensive power.

Therefore it is vitally important that each armed defender of the Soviet Homeland correctly understand the essence of the CPSU policies and the concrete tasks of building communism, strengthening of the world socialist system, world communism, and the national independence movement. Each defender must comprehend the objective necessities of military work and constant military preparedness of our troops, so that he profoundly understands his place and duties in the general struggle for communism, in defense of socialism and the Fatherland; so that he firmly believe in the steadfast ideas of Marxist-Leninism and the inevitability of the destruction of capitalism, in the righteous struggle of the freedom-loving peoples against imperialism.

The potential of the motive force of socialist development, through the important factor of unity of Soviet troops, is realized by that source of public and military activity: Marxist-Leninist ideology. It is, therefore, important that each soldier be realistically, scientifically presented with the character of tasks that have been decided upon, of paths leading to the building of communism or its defense; that he be shown the relationship between high ideals and vital interests of the people, on the one hand, and the day-to-day duties on the other. Unity of thought and action, of word and deed must daily be drilled into each soldier. This required depth and scope in party endeavors.

Raising of political consciousness of tankers, as with all our troops, forms in them communist convictions and other high moral-political and military qualities of submission to all militarily and politically prepared forces, party and political work, commanders, political organs,

1 V. I. Lenin. Poln. sobr. soch. (Collected Works), vol 11, - 376.

political workers, and party and komsomol organisations. Marxist-Leninist learning by officers, political tasks and political information for all soldiers and sergeants, agitational propaganda and mass culture work, as well as physical culture and sports actively serve these goals. The important role of the press, theater, radio, television, literature, and art in moral-political and psychological preparation of the troops must also be noted.

All systems of military learning are developed so that any specific duty will confer on the troops a good educational influence, aiding them to master the essence of Marxism-Leninism, so that communism enters their understanding and conduct. "...All things in the complex of military preparations of the red army and the red fleet," said M. I. Kalinin, "must be allied with the world outlook."¹

The ideological conviction of Soviet soldiers, their scientific world outlook, serves as a solid basis for the development of other moral-political, psychological and military qualities, namely love of the Soviet Homeland, Soviet patriotism, proletarian internationalism, high political vigilance and class hatred of imperialism, faithfulness to military duty and traditions, inflexible discipline, physical endurance, initiative, resourcefulness, staunchness, mastery, heroism, excellent military training.

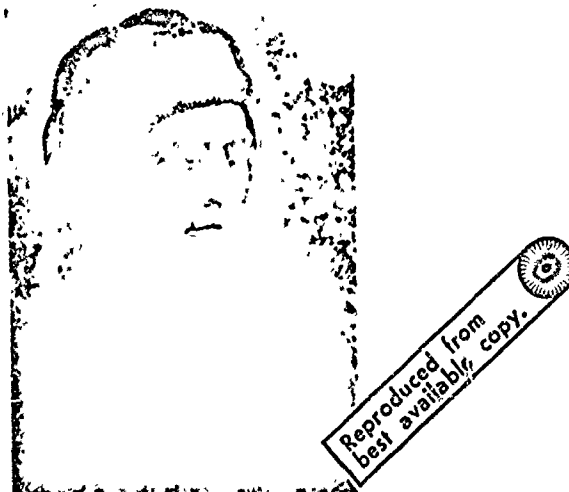
One of the most important qualities of the Soviet soldier, defining his moral make-up, is Soviet patriotism, infinite devotion to the Homeland, people, party, government, communist affairs. Soviet war patriots are men who superbly master their specialties, who will come forward at any moment to defend their Homeland successfully and masterfully, with dignity and honor, not sparing strength or their very lives for the sake of victory over enemies - as millions of heroes of the civil and Great Patriotic Wars did.

The patriotism of Soviet soldiers is inseparably linked with proletarian internationalism. The military defenders of the Soviet Homeland express their faith in the idea of international solidarity, their concern for the working class, their preparations for helping the exploited and oppressed in their struggle for freedom and independence, their preparations for defense of the sacred borders and the gains of the world socialist system. Soviet soldiers, as with all our freedom-loving people, are in complete solidarity and unity with the just struggle for freedom and independence of the working countries of Asia, Africa, Latin America and of all who join against imperialism, racism, and war. The Soviet patriot-soldier considers his international duty first of all to be the strengthening of military cooperation with the soldiers of the fraternal armies of socialist governments, the broadening of ties of friendship with working youth of the whole world.

An exceptionally important quality, necessary for a soldier-tanker

1 M. I. Kalinin. O kommunisticheskom vospitanii i voinskem dolge.
(On Communist Education and Military Duty.) Moscow, Voenizdat,
1957, p 421.

for the attainment of victory on the battlefield, is his strict discipline. Organizer and creator of the Armed Forces of the Soviet Union, V. I. Lenin taught us to look at discipline and military preparedness of the forces in unity, as interdependent themes, "In order to win," he said, "a great struggle and iron military discipline are needed."¹



"The living heart of the tank" - in this way the komsomol sergeant N. Zolotukhin, one of the best driver-mechanics, specialist class, official sportsman, describes his brother-soldier

Without educating and organizing personnel to maintain strict discipline, it is inconceivable that tank units could successfully cross water obstacles. As experience teaches, the slightest breach of discipline by crossing units can imperil or prevent the tanks from crossing the water obstacle with speed, can bring to naught the measures for attaining surprise. So, it is enough to shrink from the demands of commander's service, as inevitably happens with the density of units in the area of a crossing, with all the ensuing consequences. If the order of underwater movement is violated, then crashes occur and the crossing fails. Lack of discipline, even of only one crewmember, during underwater movement of a tank, threatens loss of equipment and men.

Therefore, preparations of tank soldiers for successful actions at water obstacles include education in rigid discipline. In units and sub-units of tank forces this goal is sought by great and purposeful

1 V. I. Lenin. Poln. sobr. soch., (Collected Works), vol 40, p 220.

work. Commanders and political workers, party and komsovol organisations explain the military requirements of oaths and military regulations to the soldiers, describe the essence and importance of discipline and its role in safeguarding constant military preparedness and in successful mastering of the methods of underwater tank crossings and other military tactics, look after the satisfaction of domestic requirements of the troops, as well as the organization of cultural leisure. Personal example of commanders and political workers, their teaching time, strict and just regulation of demands are also important means of forming soldiers' strict discipline. Commanders and political workers do not limit their activities to explanations. They carry out their own duties - they study people, analyze reasons for faults to succeed in choosing the best working methods and teaching forms; they learn to apply methods which allow the troops to understand the importance of rigid discipline and the necessity always of strictly observing it under any conditions.

The preparations of tank forces for military action including the crossing of water barriers include education of the soldiers in burning hatred of imperialism, high revolutionary vigilance, successful security of military and governmental secrets, diagnosis and suppression of perfidious intrigues of enemy agents. The enemy fights to sow false rumors, panic and to lead various measures blunting vigilance of our forces; they try to undermine military security of the Soviet Army and Navy. In military conditions many methods will be employed by underwater saboteurs in order to cause failures among our forces crossing water barriers. The history of such occurrences is known, as is illustrated by the case of a group of fascist underwater saboteurs under the command of officer F. Keller who undertook a series of diversions during the April, 1945 Soviet crossing of the Oder.¹ Operating underwater fascist scouts exploded five important bridges on this river in the area of Shtettina, Niperviz, and Fiddikhov, and thereby put the Soviet forces in a difficult position. In order to forestall such a situation, the Soviet forces must constantly be aware.

The surmounting of water obstacles demands personal mastery, initiative, and great willpower from personnel of tank forces. Capturing of fords, bridges, crossings, and the very surpassing of water barriers require that the soldiers act under the threat of nuclear attack. The solution of these problems demands from tankers surprise, audacious and rapid actions. They will need exceptional selflessness and heroism in battle against the enemy bank of water obstacles, which they will force, as well as in the struggle against enemy counterattacks.

This poses the problem of education of the forces in high moral-political, psychological, and military qualities, which serve as a guarantee of success and selflessness of actions on the battlefield, as well as in forcing water obstacles.

1 See K. Bekker. Nemetskiye morskkiye diversanty vo vtoroy mirovoy voyne. (German Water Saboteurs During the Second World War.) Moscow, Izd-vo inostranney literatury, 1958, p 208-219.

The glorious history of the Soviet Army is extraordinarily rich in examples of bravery, mass heroism, and military skill of tankers in forcing water barriers. For the successful forcing of the Dnieper in the fall of 1943, 52 soldiers were awarded the Order of Lenin, Krasnoznamennoy, Orders of Suworov and Kutusov and Hero of the Soviet Union Medals. The majority of the soldiers, sergeants, and officers were decorated by the government, and all the divisions, in memory of the heroic crossing of this wide water barrier, received the title "Dnieper!"

Here is another example that was discussed on every page of the army magazine in its time.

...Under a hurricane of fire from the enemy, the battalion rapidly forced across the Vistula. Political worker Guard Captain Nikolai Tarasov, having replaced the combat-wounded commander, led the battalion. The fire was so strong that they could not raise their heads. Nevertheless they had to cross the river. Pride and bravery were equal to the task. The water line was crossed. The tankers' magazine featured the exploit in the article "Gwardii kapitan Tarasov i yego bogatyri" (Guard Captain Tarasov and His Heroic Warriors). The tankers got the issue within a few days and read it with interest. And after the battle? The soldiers could not bring themselves to order when they heard the news: "Raisa Porfirevna, the wife of Nikolai Ostrobskiy, has come to the battalion." The soldiers at the front gathered at the edge of the woods. They listened with emotion to the story about the beautiful person, the wonderful writer, the life that was a great exploit. When the voice of Raisa Porfirevna died away, political worker Nikolai Tarasov rose from the ground. With a habitual motion, he straightened his field shirt; he took his military comrades in at a glance and spoke:

"Who of you, friends, has not read the book Kak zakalyalas' stal' (How Steel Was Tempered)? Is there such a man?"

The soldiers answered in a chorus:

"No!"

"This book teaches love for your Homeland, your people; it teaches mastery, courage, fearlessness. Let us swear, comrades, that we will not dishonor the Guardsmen!..."

It was not only with such high-flown phrases that tanker Tarasov endured! He fought bravely and boldly, blazing always with both words and inspiring example. He had crossed many verst* in order to reach Berlin and participate in the storm of the fascist lair. Tanker Tarasov and his unit forced the Don, Dnieper, Southern Bug, Vistula. In May 1945 he went to Berlin. His breast was adorned by the orders Red Banner, Patriotic War Second Class, two orders of the Red Star and two medals "for military merit."

* 1 verst = 3500 feet.

I would like to relate still another characteristic tank episode.

...Acting as part of the advanced detachment of a tank brigade, the advanced point under the command of Lt. Yudin went as fast as possible to the bridge over the Oder in the area of Burzemin. Demanding and obtaining protection, the tank crew rushed over the bridge, cut the wires of the explosive charge and set to fighting with the enemy on the enemy shore. The battle which took place instantly upon the crossing of the hero-tankers saw the destruction of five guns and 10 of Hitler's men. After the point was hurrying the advanced detachment. The main force of the brigade followed and reinforced the success.¹

What guaranteed the capture of the crossing and the fulfillment of the goals that had been set?

Along with surprise, high skill of the tankers, courage and heroism played important roles in the success of their formidable tactics. The importance of these moral qualities of soldiers for the attainment of victory in contemporary warfare is even greater. This obliges commanders and political workers, party and komsomol organizations to prepare soldiers systematically for heroic battle actions.

In order successfully to overcome water barriers, it is necessary to be of great endurance, have superb health and physical hardiness. Tankers' training to attain these qualities are furthered by lessons in tactical training, physical culture, and sports.

It is not by chance that the saying "Armor loves steel muscles" is widespread among tankers. Indeed, armored machines require skill in enduring great physical loads on the part of all crewmembers. While driving the tank, the driver-mechanic constantly makes efforts to control levers and pedals that respond only to great muscular strength. Difficult conditions of work inside the tank prevail for other crewmembers also. Taking into account the fact that surmounting of water obstacles is usually preceded by protracted, strained marches and battles, it becomes clear that they need special training, endurance, and health.

Fulfilling the orders of the CPSU program, in which the CC CPSU and Soviet Ministry of the USSR demanded on August 11, 1956, "About measures for the further development of physical culture and sports," as well as orders of the Defense Ministry of the USSR, that commanders, political organs and party organizations of tank forces constantly take care of heightening physical hardening of soldiers, sergeants, and officers, demands that soldiers be ready for action in any situation, however difficult it may be. Systematic morning gymnastics and competition in various types of sports actively help to realize these goals. The standards of the Military Sports Complex (VSK) constitute the basis of sports in units and aid in preparation for official sportsmen and judging of skills in military applications of sports.

The teaching of swimming to tankers occupies a major place in

1 Archives of the Defense Ministry of the USSR, photograph 323, list 4756, file 131, sheet 5, 42.

physical preparations. And this is correct. Soldiers who do not know how to swim cannot perform light diving duties. And without this the underwater driving of tanks must not be permitted. It follows, then, that crew commanders and political workers must ensure that communists and komсомол members, young and old soldiers, swimmers and non-swimmers be evenly divided among the crews. In this way more even preparation of crew and faster instruction is possible. One tank unit in the Belorussian Military District has accumulated positive experience in swimming preparations; this unit has been decorated with the Order of the Red Banner. In the beginning of the training year the old commander placed before the personnel these problems: each soldier, sergeant, and officer must learn to swim well, to dive, and how to perform lifesaving techniques. Military cantonments were equipped with closed pools with this goal in mind. In each company groups of non-swimmers were created with excellent swimmers at their head. Lessons were carried on during morning exercises, during the hours of physical preparations, and during mass sport work. Commanders and political worker sub-units lead personnel in swimming preparations; training of each soldier and sergeant followed.

During the summer reservoirs were used for training the soldiers in swimming. Beforehand foot-bridges were built, units were equipped with swimming materials, and barriers were set up. A good base for swimming training was developed. It is noteworthy that party and komсомол activist units gave complete support to the effort to teach nonswimmers. These units actively participated in the building of contests for swimmers, water games, meetings and events featuring the best swimmers. Diving, jumping over ditches filled with water, diving and swimming with open eyes, etc. were included in the program of sports competitions. Sports training and contests rapidly improved the health of the military, raising them to military readiness and training them in physical, moral, and psychological ways. Underwater swimming is a fascinating aspect of sports among tank troops. It has an important military significance and allows the preparation of good diving scouts, easing diving training for all personnel.

Collectivism, military comradeship, and mutual help have permanent meaning for successful fulfillment of the duties set before tank units and sub-units. A tank is a collective piece of ordinance. Its manoeuvrability, speed, accuracy of firing are determined not only by tactics but also in dependence upon coordination, agreement, comradely help. Such is particularly the case in overcoming water barriers when the war machine must suddenly be stopped under enemy fire or turned sharply!

Here is an example. In one lesson the tank had to be stopped under water. Attempts to move proved useless. It was also unfeasible to tow the tank off without flooding it. A dangerous underwater situation had been created. The crewmembers decided to flood the tank and go out to the surface. It was the first time that the tankers had experienced such a situation. One of the crewmembers became nervous and began making mistakes. The rest of the tankers did not lose their heads. They acted in precise adherence to established procedures in exiting from the flooded tank. In these difficult minutes the commander of the tank encouraged the novices,

helping them better to fix their gas masks. The first who left the tank was the gun layer, who helped the loader. The loader, with the help of the driver-mechanic, was the second to leave and went to the surface. Behind him followed the driver-mechanic. The tank commander helped him get through the hatch without delay. Following, as he should, came the commander. Comradely help by the crewmembers turned a critical situation into success.

That is why in every lesson the commander and political workers explain to soldiers the importance of comradely aid for successful crossings of water obstacles and teach collectivism and submission as the first laws of military comrades.

In training and military situations the tank crews can unexpectedly find themselves in an underwater situation which demands from them exceptional self-control, calmness, willpower. During underwater driving one crew found themselves in an ordeal of courage. The crew was composed of Valeriy Bocharov, a former metal craftsman of the Kharkovskiy tractor factory; Grigoriy Kulibab, son of a partisan in the Great Patriotic War and technical school student from the Donetsk region; Ottagiy Chanturashvili, former communications expert from Tbilisi.

...The tank of this crew advanced along the river bottom. The directional gyro pointed the way through the disturbed waters. The quiet, measured voice of the battalion commander convinced Sergeant Grigoric Kulibab that the tank was proceeding along the correct course. Suddenly the machine was in an underwater hole, in deep and halted. The Sergeant immediately reported to the commander. To the bottom came divers. The group of them went to the aid of the tank. The first, then second and fifth and seventh attempts to drag out the tank produced no results. The silt-covered bottom held the machine firmly. Several hours of this "factory captivity" passed. It grew stuffy inside the tank. The tankers knew how difficult the evacuation would be. Again tractors pulled on the cable. This time out of the water the cannon slowly emerged, then the turret, and the tank...Finally the tired tankers emerged from the tank and spread out on the grass. But the rest was short.

"Crew, stand up!" commanded Sergeant Kulibab.

When the tankers had stood up, the tank commander addressed the officer:

"Please allow us to repeat the crossing."

The officer looked carefully into the face of the tanker and ordered:

"Prepare the machine!"

Quickly the tank entered the river once more and after a few minutes slowly emerged on the opposite shore.¹

¹ See Pravda, August 4, 1970.

Resolute steadfastness, ability in a dangerous situation to preserve calm and fighting ability are qualities no less important to tankers than spiritual and moral strength.

* * *

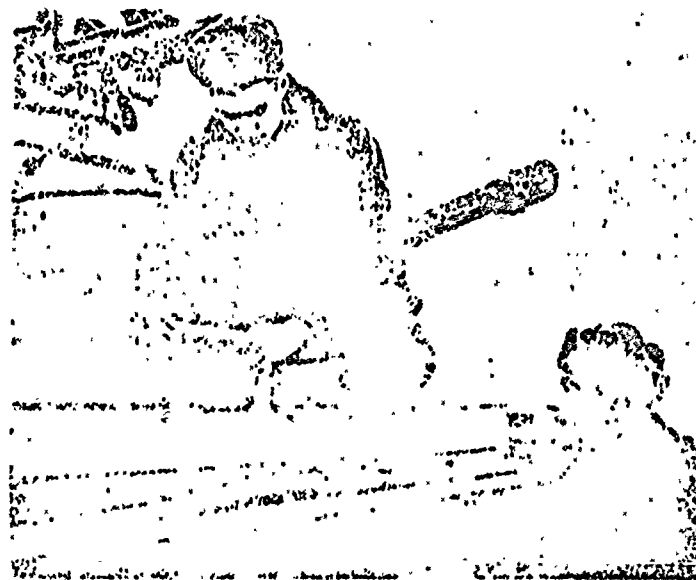
One of the most important qualities for tankers to attain victory over the enemy is, as already outlined earlier, great military skill and deep knowledge of military techniques and weapons, the basis of contemporary war. For successful action on the battlefield "besides good political attitudes, military training is necessary,"² teaches the prominent military expert M. V. Frunze.

In the Soviet Army a harmonious system of military and political preparations has been created with honor enduring the test of time. During planning exercises, soldiers, sergeants, and officers successfully master all the complexities of military affairs, persistently studying in order to know them perfectly in battle. Tests of mobilization means of personnel to perfect their military skill are carried out in connection with party-political work, which continuously is implemented by commanders, political workers, and party and komsomol organizations.

The transition of Land Forces in agreement with Soviet Law to the general military requirement of a two-year term of service has given new difficult tasks to commanders and political worker units and sub-units. Now soldiers and sergeants must receive both the necessary knowledge and mastery of their specialties in two years. In particular, tank forces must study their military machine and be able to drive and service it, accurately hit targets, act in tactical situations such as the forcing of water barriers. There exist certain vital conditions for solving these problems in war: rich training base, military equipment, experience, capable commanders. Preconditions for the attainment of high successes in war include general education and technical levels rising so that the army receives new personnel better prepared by schools.

Among the conditions providing for high quality training of tank crews in overcoming water barriers by tanks under water military technical specialties and methodical preparations of officers occupy a special place. As the technological equipment of our army becomes ever greater a more and more important role is played by the quality of the men. The level of learning of the troops and victory in war depend on the level of professional mastery by officers and on their technical habits. Fundamental changes in military affairs demand that the tank officer, commander, or political worker, whichever he may be, be imbued with love and respect for equipment; that he master it; that he be well-grounded in physics, chemistry, mathematics, and, without fail, conditions of scientific organization of education and training of tankers - conditions without which the successful direction of war cannot be achieved.

2 M. V. Frunze. Izbrannyye Proizvedeniya. (Selected Works.) Moscow, Voenizdat, 1957, p 320.



Politburo Secretary Major V. Romanenko
(right) always finds time to have a
talk with driver-mechanics



Reproduced from
best available copy.

The Secretary of the Komsovet Cabinet Lt. A Tro-
khimets - expert on tank techniques and skillful
educator of Armenian youth. In truth a personal
example, he mobilizes soldiers, achieving excel-
lent success in military and political prepara-
tion

The commander's preparations include perfection of military techniques and of the specialized knowledge of officers in the unit concerning planning sessions. This process lets officers profoundly master regular techniques and weapons, drive machines, and fire. Military-technical propaganda plays an active role here: conversations, lessons, lectures on technical themes, conferences on technical problems, and other forms. In many units schools of foremost experience are successfully used, implementing programs in which the exploitation of military techniques and weapons is taught. According to the plan of the commander's study for perfection of methods for preparing officers, methodological study, conferences, training sessions, lectures, readings on methods, instruction, and psychology all play a part.

One of the tank units of the Red Banner Kiev Military District accumulated considerable teaching experience in this area during preparations for fulfillment of underwater tank exercises. A systematic training assembly for officers was held at the water training site.

The commander read the officers a lesson on the theme "Opinions of the Enemy on the Defense of Water Lines, Radiation, and Hydrological Situations and Methods of Overcoming Water Obstacles." The deputy technical commander ran lessons on the theory of underwater tank movement. Medical corps workers talked about hygienic conditions in hermetically sealed tanks, about the physical and physiological aspects of underwater immersion. With the goal of a more profound understanding of questions stated in readings, the club organized an exhibition of literature and a showing of military training films.

Assemblies were arranged for unit members to instruct them in the use of gas masks, the procedures of flooding tanks, and other rules.

The deputy political commander concentrated the attention of officers not only on the fact that each of them had the duty to observe safety regulations, but also gave them practical advice on the procedure of explaining safety regulations to soldiers and sergeants in lessons on diving preparations. Commanders and political workers led lessons in underwater tank driving with the help of experienced driving masters. Then they attended demonstrations of light diving preparations and underwater driving, discussed the organization and methods of driving in detail, as well as acquainting themselves with the substance of political and educational work.

Seminars on the theme "Forms and Methods of Party-Political Work For Fulfillment of the Duties of Instructing Personnel on Underwater Tank Driving" were held at unit assemblies. At the conclusion of the assemblies the unit commander took exams from officers and set up precise lessons for teaching underwater tank driving to tank crews.

Such clearness of purpose of training helped commanders and political workers of sub-units to deepen and strengthen the necessary base of theoretical knowledge, practical skills and to arm themselves with the experience and the best teaching methods of party and political workers.

Methodological conferences are regularly held in this unit. The com-

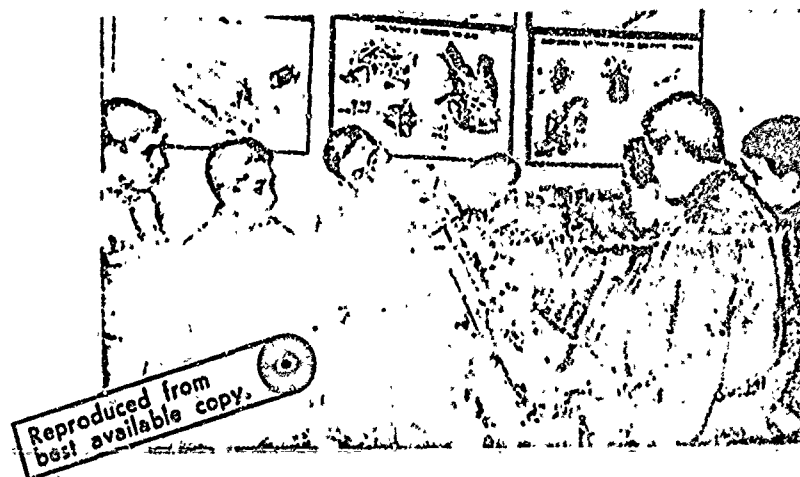
The learning process ever more widely must incorporate technical progress, especially in the areas of electronics and automation. There are often control panels adapted for television, tape recorders, and various other electronic and radio apparatuses. Training movies and other devices that help to recreate this or that learning situation without expenditure of motor transportation resources received great recognition. They not only allow the teaching process to approach realism but, which is especially valuable, create a psychological load similar to that which tankers will be faced with in battle when overcoming water barriers.

The experience of work in creating and perfecting training bases in guard tank units deserves attention. Tests of means of mobilization of communists and all forces in newly created training bases were begun at a party meeting with a discussion on the agenda entitled "About Personnel Who Are Communists and Komsomolists in Creation of Training Aid Bases For Underwater Tank Driving." These tests were continued in all party organizations and helped to explain to personnel the importance of exercises and to outline paths of successful resolution of problems. Almost all units equipped pools and formed special classes. Efficiency expert and inventor Captain V. Dmitriev, private Ye. Tiboikin, Yu. Petrov, S. Mikhailov, G. Bolyshv, and personnel of repair units created and installed in classrooms training equipment including a water simulator. Political workers developed diagrams, placards, leaflets for each lesson site with the close cooperation of engineer and technical staff, and artists colorfully mounted these materials.

The commander invested a great deal of effort and creative skill in developing training bases, with the help of his deputies in political and technical units, members of the party committee, and komsomol activists. After several months of strenuous work a training complex was created in the unit which made possible the rapid teaching of personnel in underwater tank driving no matter what the season. The training base allows development of lessons so that tankers could consistently work out problems connected with overcoming water obstacles on the bottom. One class is for diving preparations. Another is for studying equipment, its use, and how to drive. In the third the actual equipment used in underwater driving is studied; a tank with all the necessary instruments is provided and the students are allowed to develop introductory skills in preparation for underwater driving of the military machines. In the fourth class also a tank equipped for underwater driving is provided; here personnel practice working out of problems in the preparatory stage of underwater tank movement and simulate underwater activities in tanks on land, as well as practicing submersion and leaving the water and safety measures. The equipment available to the class affords the possibility of observing and learning in the company area. Supplemental measures promoting the widening of military-technical knowledge of tankers are also carried out in these classes.

Such, in our view, are the conditions for successful mastery of underwater tank driving by military personnel, and for moral-political, psychological, and military qualities which commanders, political workers, party and komsomol organizations daily work to form and perfect in each draftee.

The stronger the development of these qualities in the personnel, the greater the fighting efficiency and preparedness of units and sub-units, the stronger the will and training, the more successful tankers will be in complicated situations found in contemporary war.



Profound knowledge of the tank is the basis of successful underwater driving. In technical classes tank motor lubricating and cooling systems are studied.

In the following chapters the learning by tankers of diving, the inculcation in them of practical skills for underwater tank driving, ways of forcing water obstacles in tactical exercises, and the overall development of the moral-political and psychological qualities necessary for war will be discussed. Fundamental attention will be paid to political-educational work in the process of training tankers.

EVERY TANKER IS A DIVER

Battling deep snow and forest obstructions, our tanks slowly gnawed through the strong enemy position. The flat, white ribbon of the frozen northern river appeared. The thickness of the ice, evidently, was enough for the first group of our tanks quickly to cross to the enemy shore of the river. The enemy strengthened its artillery bombardment. Ahead one of the tanks was blown up by a shell. The driver-mechanic saw how the explosion flung up ice and a plume of spray. The tanker instantly yanked the lever toward him in order to go around the unfrozen patches, but it was already too late. The steel bulk tilted forward and plunged under the ice. The icy water covered the tank. In seconds the young political instructor in the war machine S. Traynin appraised the situation and ordered the crew to abandon the tank. He was the last to leave. Throwing off his felt boots and tearing the padded jacket that got in the way, the political instructor waved his pistol and went toward the hatch. The water burned. Hands groped for the crevice between blocks of ice and succeeded in catching hold. Gulping air, Traynin gathered his last strength, crept onto the ice and...lost consciousness. Comrades helped him reach ground. There tankers dried off, arranged themselves, and quickly the war crew returned to battle.

Similar crews at the front had similar occurrences often. Such incidents exist also in peacetime. Of course, the prepared crew in a modern tank is ready for underwater movement, so such great danger is no longer strange either in war or training. But this requires the continual study of diving. Tank commanders, driver-mechanics, all crewmembers must master this facet of underwater tank driving.

For light diving preparations tankers learn how successfully to carry out underwater reconnaissance if the tank stops for some reason on the river bottom. True, the crew now wears gas masks as long as they are underwater or undergoing certain duties, but careful study is still necessary. Hence the rule: without mastery of diving the tanker will not be permitted to drive the machine underwater.

In the process of organizing light diving preparations, the commanders, technical and engineering staff, and political workers of the tank

units often encounter serious obstacles. It is not so simple, you know, for the soldiers, sergeants, and officers who will go underwater to inspect tanks and fulfill other necessary duties. Watery surroundings essentially differ from air surroundings and man, in another environment, needs protection in order to overcome significant difficulties caused by movement of the limbs, breathing, trauma, blood circulation problems, and other results of the unexpected conditions. This causes, as a result of the defensive reaction instinct, fear of the water among unprepared people.

Some conclusions received as a result of investigations of moral-psychological states of personnel in diving training proved not without interest. Special attention was given to the psychological and physical conditions of tankers going underwater, in the process of moving around under water, during actions in a submerged tank (water simulator). It turned out, for example, that at first being submerged, as well as during the first underwater training, many became agitated and experienced fear.

Externally this revealed itself in a faster pulse, irregular breathing, involuntary shortening of muscles (spreading or tensing of fist), disturbances of the natural facial expressions (wide-opened mouth or tightly clenched jaws). It has been noticed that these unfavorable appearances are redoubled by incorrect methods of driving training and breaches of security measures. Fear of water appears most often in recruits, especially those who cannot swim. Experience accumulated by the troops confirmed that through preliminary preparations at each organizational and methodological level of diving training, a peaceful atmosphere, and personal examples by commanders sharply limit errors in mental and physiological acts by trainees.

How can the unfavorable reaction arising within a man at his meeting with the water be explained? Why does water appear more frightening to those unit members who are less well prepared physically? What paths can be followed to remove these tendencies?

In order to answer these questions, brief aid will be given to readers concerning some physical properties of water, such as its density, hydrostatic pressure, heat conductivity.

As a man goes under the water, he experiences the sensation of quickly increasing pressure. Immediately after submerging he feels as though the water is burying his body, constraining the movement of his limbs. We have experienced nothing worse, though, we find upon drying off. This feeling is explained by the fact that in comparison with air, water is much more dense. One liter of air weighs 1.3 grams; one liter of fresh water 1000 grams, making water 770 times as heavy as air. The surface area of the body of a medium-sized man is 17-18 thousand square centimeters. It follows that he constantly experiences air pressure of around 17 to 18 tons!¹

Yet despite this, people feel free, move about easily, run, and jump. How can man support such a load? The fact is, our body does not feel it, as

¹ See Uchebnik legkogo podolaza. (Light Diver's Manual.) Moscow, Voenizdat, 1962, p 22.

with the air we breathe; gases dissolved in the blood and tissue, in bones and body cavities give the body an inner strength equal to the pressure of the air from without. It is a different story when a man is underwater. The supplemental pressure of water, greater by one atmosphere every 10 meters, acts on his body.¹ The lower one goes, the greater becomes the pressure, causing uncomfortable feelings. Breathing and circulatory systems undergo changes. In order more clearly to show these changes it is necessary first to recall the state of man's circulation under normal conditions.

In man, as is known, there are two types of circulation - the minor, between the heart and lungs, and the major, between the heart and all the other body organs. Passing through the minor circle, the blood is cleansed of CO₂. The purpose of the major circle is to transport O₂ through the arteries to tissues and, with the veins, to take CO₂ and other waste matter away. Moving along the circulatory vessels, the blood undergoes resistance by vessel walls. The smaller the vessel diameter, the greater the resistance experienced by the blood. In order to overcome this resistance, the blood must be pumped by the heart.²

When a man is on land, he experiences, for all practical purposes, the same pressure on all surface areas of the body. At submerging in the water, hydrostatic pressure on the upper and lower parts of the body differ. This creates new conditions for vessel blood flow. As a result occurs distribution of the blood, resulting in flowing heavily in the upper portions of the body and a lack of blood in the lower parts. The influence of water pressure on a man under the water for a long time causes shivering, constraint of the legs, and increased heart rate. Water influences man's breathing also. A great deal of strength is needed to overcome the resistance of the water, expand the chest, and inhale air, which, even then, is not clean but regenerated in the gas mask. One tires more quickly. Rapidly submerging can cause pain in the hollow organs supported by air: ears, lungs, nasal passages. Here we again come in contact with the influence of hydrostatic pressure on the blood. Of course, we mentioned how fast our body cools in water. Compared to that in air, the body's heat conductivity increases 25 times. This means that the organism loses much more heat under water than on land.

After a short trip the conclusion that a man in water is in unusual circumstances can be made. Increased water pressure, rising with the increase of depth, lower temperature than on land cause a series of changes in man and have an important influence on his psychic, moral, and physical state. Can this negative influence of the troops' psychological state, once experienced, be overcome? Yes, it can. Their arsenal of means, forms, and methods which can be used by commanders, political workers, engineer and technical workers, military doctors to attain this goal during training, especially in the process of personnel diving training of tank units and sub-units, is numerous and varied. Profound study of diving affairs and

1 N. I. Donikov. Vodolaz. (Diver.) Moscow, Voenizdat, 1959, p 36.

2 In a healthy man the maximum blood pressure is around 120 - 130mm of mercury and the minimum around 65 - 80mm (See Uchebnik lorkogo vodolaza, pp 31 - 34).

practice of difficult underwater activities are important means to the successful formulation of high moral-political, psychological, and military qualities; aid the troops in becoming physically tempered. The solution, in a word, is submission to party-political work in the process of diving preparations.

That is how, for example, commanders, political workers, party and komsomol activists of one guards tank unit of the Order of Lenin in the Moscow Military District developed their work in the process of practicing light diving training. The personnel of sub-units of this unit went into the river and worked out the problems of light diving preparations. At this time soldiers studied gas masks, acquired good habits in using them on land both in and out of the tanks. Non-swimmers practiced swimming. Supplemental training in physics and physiological problems of underwater immersion was implemented for young soldiers; tankers who already had experience going under water and staying there received the duty from the commander of helping the young soldiers. There were soldiers who hesitated during diving exercises, shying away from going under water on various pretexts.

All this is thoroughly taught by commanders and political workers during organization and conducting of lessons; all the measures that would help mobilize the troops skillfully to fulfill the duties of diving preparations were implemented. Above all the procedure of preparatory work and the actual conduct of the lessons, including practice with gas masks under water, was discussed by unit commanders, their deputies, party committee secretaries, regimental engineers, chemical service chiefs, senior doctors, and sub-unit commanders and their deputies.

Subsequently, the commander explained the duty of preparing unit personnel to start lessons. Special attention was given to measures for methodical officer preparation. The regimental engineer conducted diving training in which questions of evacuation safety were studied. The deputy political commander counseled political workers on the question of organizing rest and feeding personnel, instructed secretaries of leading party and komsomol organizations on maintenance, form, and methods of educational work. preparatory diving exercises. He gave a great deal of attention to the transfer of experience in the area of education from the commander to political worker sub-units.

At the same time propaganda and library sections worked together to outfit the library. Into it went the following books: T. Shashlo - Dorozhe zhizni (The Road of Life), in which detailed descriptions of tanks overcoming water barriers during the Great Patriotic War are given; N. D. Tret'yakov - Organizatsiya i provedeniye sostyazaniy po plavaniyu i pryazham v voyu (Organization and Conducting of the Swimming and Diving Contest); swimming manuals and others. The club organized a display of tank warfare training films: "Plavaniye i pereprava vplav" ("Swimming and Crossing By Water") and "Predoleniye vodnykh pregrad" ("Crossing Water Barriers").

In sub-units party meetings were held. The secretary of the party committee gave a lecture at one of these meetings entitled "On the Personal

Example of Communists in Mastering Diving, The secretary of the komsomol committee took an active part in the conduction of the seminar with komsomol group organs on the question "Practical Lessons In the River and Komsomol Group Organ Work In Education of Komsomol Members In Military Qualities." Young soldiers listened with interest to his conversation on military mastery and heroism of the komsomol soldiers during the forcing of rivers in the Great Patriotic War years. The secretary called on young soldiers to act on the tasks set before them the way komsomol members had during the war. Subsequently, he helped the secretaries of company VLKSM* organizations to determine concrete missions for komsomol members, to prepare and carry out meetings.

During the lesson preparation period, commanders, political workers, party and komsomol committee secretaries and other activists visited every soldier who was afraid of the water, organized performances of these soldiers who successfully coped with light diving activities, and had soldiers from the front tell of their experiences. Discussions were carried out throughout the company on the theme "Courage, Fortitude, Will, Discipline - the Important Conditions For Successful Underwater Activity."

Propaganda units and club heads actively developed educational work in field conditions in mobile lesson rooms with the help of party and komsomol units. A photo display describing the succession of diving training problems that were worked out and the safety measures using gas masks under water aroused great interest among tankers. One stand was developed with the theme "What Tankers Should Know About Physics and Physiological Conditions of Underwater Submersion."

In the area where lessons on diving were carried out placards were hung up on which were written the conditions and procedure for fulfillment of duties, safety measures. In order to avoid occurrence of supercooling, officers, party and komsomol activists thoroughly familiarized the troops with the maximum period of safe continuous stay in the water without special training.

Such means of graphic propaganda gave definite help to commanders and troops.

Much of the time political units worked in the company that first began diving training and showed all the officers the necessity of organizing and leading. A conference with party and komsomol activists, conversations with those who first set about fulfilling the tasks of descending under water and moving about, control of safety measures - this is far from the full list of questions that were studied by political workers the day before practice in diving preparations. The commander of this company thought through all the details of solving the problem of light diving preparations again and again, pondering variants for individual work with young soldiers as well as with those who feared the water. He and the regimental deputy political commander talked with excellent swimmers, experienced underwater troops, laying out before them the duties of helping the young soldiers.

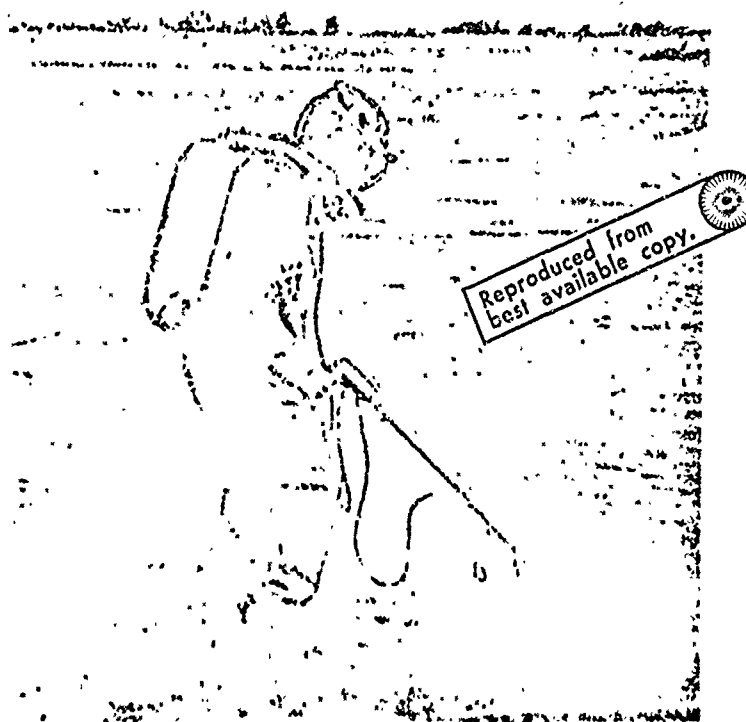
Political information with the theme of "Excellent Fulfill Duties of

* VL: All-Union Lenin Young Communist League

Diving Preparations" was held at the beginning of training for the personnel. It was delivered by the deputy political commander. Then, the senior doctor discussed physics and physiological aspects of going underwater and measures for the prevention of specific diseases. Diving scouts carefully checked the areas where underwater lessons would be held by the first troops to solve diving problems.

The lessons proceeded according to the following plan: giving assignments, studying safety measures and verifying underwater actions, holding practical demonstrations and lessons in the water, reviewing the results. Four teaching points were developed to give profound mastery by the troops of the basic questions.

Concerning the giving of assignments, the company commander responded to questions on sequence of preparations to submerge, on the order of maintaining connections with those on shore with clear, systematic advice. Platoon commanders studied with other personnel on safety measures, verified knowledge of each student on the required guidance. Subsequently, excellent tank commanders and young sergeants V. Kydryvtsev and K. Nebrasov showed how to carry out the first and second duties of diving preparations. Young soldiers followed attentively behind the knowledgeable commanders, studying their actions, as did experienced underwater tankers.



Diver-miner checks a section of a water route

Practical demonstrations of the techniques of going underwater and moving about in an underwater environment have significant meaning for those who set out to accomplish these tasks. During these demonstrations, young tankers see with their own eyes that by observing definite rules each one can successfully master the methods of submersion and accomplish the necessary underwater work. Therefore, systematic studies are correctly begun with demonstrations.

After the demonstrations company personnel began underwater practice. In the practice area, where descending and underwater movement were worked out, the deputy political commander of battalion was continually present. Why did he concentrate his attention exactly on this area? Was it by chance? No. Experienced commanders and political workers know that when troops first begin descending underwater and moving about on the bottom some experience unnecessary emotional tenseness and some become frightened of the water. During the period of helping young tankers, encouragement, instillation in them of belief in their own strength and the reliability of their diving equipment, and making the soldier calm - all this has educational significance.

It was noticed that soldier X was agitated during preparations for lowering under the water. His jaws trembled; his breathing quickened. After distributing ampules to strengthen the suit, the soldier accidentally touched the warm cartridge with his hand. Thinking that the gas mask was burning, he ripped it off. The political worker approached, calmed him, and explained the reason for the heating of the upper part of the cartridge. After this the soldier again put on the mask and entered the water. But suddenly the soldier rushed out and announced that the apparatus was defective and that it made it dangerous for him to go underwater. The political worker begged the soldier to explain in detail the signs of malfunctioning of the suit. It appeared that upon submersion the young soldier so tightly squeezed the respirator mouthpiece that the used air began seeping out from under the helmet. Little by little the water replaced the air under his ears. So, he who begins to feel water penetrating under the helmet knows it is not right. The political worker again explained in detail the soldier's mistake, described how to breathe correctly, and, putting on a gas mask, went under the water with the soldier. There he was - faced with an invitation. At first he somewhat hesitated, but at last he followed the officer. Feeling the elbow of the older one and observing his gestures, the soldier relaxed, calmed his breathing and executed the correct descent and followed the political worker around the perimeter. He answered the signals of the director correctly. After fulfilling the duties, the political worker and the soldier came out of the water. It was apparent to all that the soldier was happy about his first victory. There was joy also in the soul of the political worker. The main thing was that the soldier believed in the quality of his suit, had strengthened his will, and had taken the first steps in diving preparation.

Some readers may ask, "But was it necessary for the political worker himself to demonstrate underwater submersion techniques? This is the duty of the company sergeants and officers. Wasn't he substituting for them?" We are faced with a specific situation, in which the political officer acted correctly. His personal example and impassioned party appeal had great motivational influence. He not only inspired and strengthened his belief in his own strength, but also taught the commander how individual training must be given to subordinates.

During the lessons the company commander, battalion commander, and deputy technical commander, as well as the battalion political worker, went under the water with young soldiers.

Advice, help, and the personal example of chiefs and experienced communists lead the young soldiers to overcome timidity, unsureness and to fulfill diving preparation duties. Of course, the commander and his political deputy did not have to demonstrate submersion techniques to the soldiers at every training session. Sub-unit leaders coped successfully with this. However, teaching underwater action by personal example is sometimes highly useful - not only by company officers but also at the platoon level. The duty of senior chiefs is to organize people, help subordinate officers master initial training of tankers in diving affairs, and then to insure that they teach the skills to the personnel.

But let us return again to company-level duties. Besides working out rules of submersion and underwater movement along set routes, underwater forces practice evacuation from tanks stopped underwater. Before accomplishment of this task, the commander gave the following introduction: "Tank Stopped Underwater; Prepare For Evacuation."

The soldiers who were charged with evacuating the machine put on special equipment, and quickly they entered the water. Now they reminded one of "amphibious people," moving easily through the water. Two tanker-underwatermen took the rope, went to the mock-up tank, and fastened it to the hook. The machine was ready for evacuation. Coming out of the water they reported to the officer that the mission had been accomplished. The relief acted equally quickly and surely.

During the training day, company personnel worked out descent and underwater movement, as well as the attaching of the tow line to the tank. It was apparent that young tankers, although somewhat tired, were satisfied. Each one understood: he had taken one more step on the road to military perfection. Along with the soldiers were commanders, political workers, party and komsomol activists. They helped the young ones attain military mastery with advice and demonstrations.

At the end of the lessons, the commander summed up, remarked on the quality, showed mistakes, and set tasks for the next training day.

The local radio talked about the results of the training day. During the mass political work hours, master driver and experienced underwater tanker communist Yu. Korolev shared experiences with young soldiers on land, underwater stays. Excellent swimmer, skillful underwater worker, agitator, young sergeant S. Korebkov visited with komsomol members V. Topp and S. Zarinsheva on orders from the bureau of the komsomol organization to discuss better ways to master diving.

The Deputy Battalion Political Commander summed up the work of party and komsomol activists and instructed them on the latest work.

What is characteristic of the work of commanders, political workers,

party and komсомол activists at the stage of tanker diving training? Above all concrete, individual work with each young soldier, during which words and personal example were actively used. They continually showed the meaning of party influence to the troops, attentively studied their psychological condition, creatively searched for and found paths for overcoming fear of water and negative emotions. Painstaking work with the tanks allowed the troops to prepare for successful resolution of the more complex problems of diving.

Party-political work during crew training for tanks breakdown under water has exceptionally important meaning. This is the most complex stage of diving training. Here each crew acquires skills in estimating underwater obstacles, works out the most expedient method of action in an emergency when a tank is flooded and must be evacuated. To these precise tasks commanders, political workers, and party activists addressed themselves, to prevent the mistakes that troops often make from fear of the water when they are using diving equipment, exiting from the machine, etc.

The soldiers' habits and skills for operating underwater during an emergency tank halt depend on special lessons in water training. A mock-up tank with equipment for underwater driving installed and accommodation for sinking is used. Water simulators are both stationary and moving. The stationary ones consist of apparatus used for diving training, and the mobile ones are used in summer for the training of crews with equipment in rivers, estuaries, bays, and lakes.

During implementation of party-political work during this period tank crew training by commanders and political workers of all levels teach two points. First, in this period responsibility lies with the tank commander, who makes his own decisions on tank evacuation during all emergencies. Namely, the lives of the crewmembers and the hopes of fulfilling the mission depend on his knowledge, experience, correct actions, calmness, and his good management in making decisions. From this the importance of concrete, industrious work with tank commanders can be understood. Secondly, the way in which people are worked with is important in determining the results of special classes or in a river (lake). It must be remembered that the training area for special classes is equipped in a manner calculated to afford a complete guarantee of security for the trainees. Never was this scene observed: almost all members of a class of diving-training tankers afraid at the point of submersion in a water simulator. The majority of the trainees always have normal, rhythmic pulse, blood pressure, and breathing. The same people feel completely different when training in a river, lake, etc. Registration of pulse, blood pressure, and breathing allow determination of the adverse influence of water on a soldier's psychological condition. It showed that in such a situation some displayed fear of the water. Many were observed to be emotionally tense.

It is fully natural that all this has made a definite mark on the form and content of party-political work. Experience in organizing educational work under such conditions has been accumulated, for example, by commanders, political workers, party and komсомол organisations of the foremost tank units of the Baltic Military District.

Commanders, staff, and party committees of this district attentively

follow preparations of equipping training areas and of tank commanders for carrying out their duties. The point was attained where all measures promoted inculcation by officers and sergeants of command qualities and raised their feelings of responsibility toward learning and education of subordinates.

Systematic training for instructors was conducted with the goal of the achievement of unity of views on the organization of training between the company and platoon levels. For example, lessons on the theme "Methods of Training the Crew In A Water Simulator and Safety Measures" were held and officers had a detailed discussion of training procedures, questions of organizing the intelligence reservoir and of observation of trainees, how to evaluate. Finally, they heard a lecture by the political worker on the theme "Moral-Psychological Preparation of Troops For Underwater Action."

Great educational work was carried out with tank commanders of this unit. Sub-units received instruction. Under the direction of the deputy political commander a leaflet on "The Necessities and Procedures of Action By a Tank Commander; Upon Sinking of the Machine and Exiting From It" was delivered to each tank commander. During free time conversations were conducted with them on the theme "Role of Tank Commanders In the Study of the Moral-Psychological State of Crewmembers and Their Education In Military Qualities." The commanders of military machines listened with interest to the radio speech of the re-enlisted Master Sergeant and excellent crew commander V. Burgardt. He shared his experiences of studying people and techniques, organization of cooperation and overcoming fear of the water by detached units upon finding themselves underwater.

On the instructions of the party committee, communists M. Kovalevskiy, A. Ivanov, A. Tyurin joined in a conversation in front of tankers on the theme "Learning How to Act Like the Crew of Sergeant M. Biskis In a Tank That Had an Underwater Accident." This team had to leave a flooded tank during training. The forced stop of the war machine under water was not the crew's fault. The crew was acting efficiently, considering the difficulty of the mission, and showed good organization. Commanders, engineers, technical workers, party and komсомol activists told personnel about various means of flooding a tank and about certain more acceptable responses to a tank accident. For this purpose conversations, evenings of questions and answers, quiz games, and stories about tankers in which realistic conditions occurred including underwater stopping of tanks were used.

The trainees learned a good deal playing a quiz game with the theme "Carrying Out War In Dangerous Underwater Situations." The personnel were informed early of the quiz theme. Along with an explanation was a box for collection of answers and a placard: "War! Prepare for Victory! Think, decide, and tell!" Underneath various cases of tank floodings were described.

First case. Tank stopped at a depth of several meters. No movement. Sealing is secure. Air pipe is in good condition. Pressure in tank is about one atmosphere. Flooding will be directed through observation apparatus of the commander's turret. How long will flooding take? How much will pressure

visibly afraid, but experienced comrades comfort him. Crewmembers put on gas masks and take their places quickly in the simulator.

The tank commander verifies preparations of subordinates and reports to the training chief. The order follows: "Flood tank." Water gushes through the chamber vision device. The commander observes the work of the loader. Though he is upset, all is going according to instructions. The rest of the crew is calm. The simulator quickly fills with water. Over them a three-meter deep column of water is formed. It becomes dark. The loader lifts the roof hatch. The first one to abandon the flooded simulator is the gun layer. The last one is the commander. The tankers swim to shore and climb the steps to the platform, where they remove the diving suits.

The company commander listens with delight to the officers' reports and those of the sergeants on the crewmembers' feelings, as well as on the actions that they carried out. The officers thanked all for their coolness and skill. He had noticed that the gun-layer had incorrectly set the instrument on his chest when he left the tank. The next group also listened attentively to the officer's observations. Then the two teams met for a short time. Questions by the one and answers by the other defined some of the details of underwater actions. One of the young soldiers, who recently had read A. Belyayev's science-fiction novel Chelobek-amfibiya (Amphibious Man), said that at times it seemed that they were not in training but had fallen into the secret underwater garden of the Sorcerer Salvator and that the hero of the novel was with them... But the surroundings of this world were more romantic and more severe than the book world. Tense studying was necessary to come to grips with the problems and not lag behind comrades in learning skills of acting in underwater tanks.

Directing training, commanders and political workers explained the importance of exact observation of all rules to the troops - on this depends the success of crew attempts to exit from a flooded tank. So, the attention of each tanker was turned to one unpleasant occurrence in an underwater situation. While the tank is being flooded, the buoyancy of the life jacket is trying to lift the man and turn him from the verticle to the horizontal position and press him against the top of the turret. In order to avoid this it is necessary to hold oneself upright with a constant effort. Conversation periods such as the above require little but their value is great.

When working out means of acting during the flooding of a tank and while exiting from it, commanders and political workers emphasize the importance of unquestioning fulfillment of the requirements set down in directives, and they continually maintain readiness of life-saving procedures.

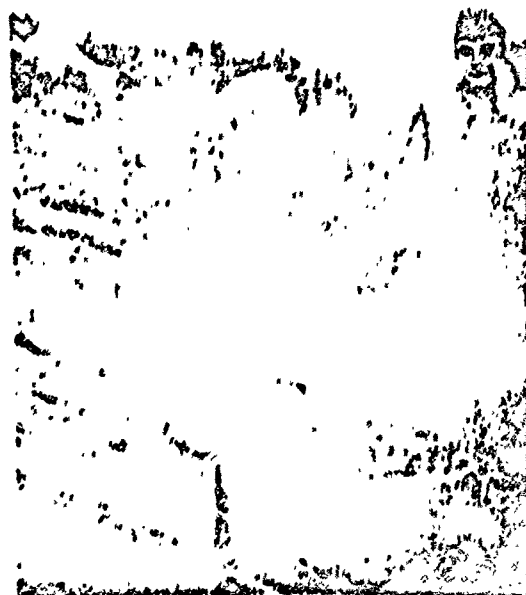
Self-preservation is an instinct which can sometimes push young soldiers who find themselves for the first time in an unusual and complex situation to make incorrect actions. To overcome fear of water and conduct oneself correctly in a tank under water a soldier needs a strong will; profound knowledge; exact fulfillment of orders, instructions, and directives - in short, iron discipline and faith in military duty.

As is known, the emotional life of war and its experiences have become

the objects of investigation not only by physiologists and doctors, but also by commanders, political workers, military psychologists, and teachers. And this was no accident. Scientists determined that a great number of so-called psychosomatic diseases arise under the influence of negative emotions. The fact is, emotions are shown not only in outward appearance - through speech, facial expressions, and movements of a man - but also internally. The heart and vascular system experiences emotion in its own way, for example: spasms occur and blood pressure rises as a result. Physiologists have succeeded in penetrating deep into man's brain and have studied some of the mechanisms of health and the forms of favorable and unfavorable emotions. As emphasized by academician I. P. Pavlov in his day, emotions are "natural forces" on the activities of the cerebellum. They are the vital basis for daily, creative life and activities of people. Negative emotions, for example, if continuous, create stimulation. Under such conditions the sensitivity of the brain to traumatic irritations rises. This can cause psychosomatic instability resulting in the characteristics of disease. If the chemical base of two opposing emotions, such as happiness and delight as opposed to sadness or fear, it will be noted that the former are accompanied by the appearance in the blood of beneficial materials promoting the support of cheerfulness, while adrenalin and materials destroying good disposition appear in association with the latter. This drains man's strength, leading to the loss of military qualities.

But this does not mean that man is helpless before these forces. He possesses apparatus capable of restoring normality quickly. However, this guarding apparatus which doctors call the depressor has defensive limits. If the negative emotions are frequent, continual, prolonged, the man will be unable to resist.

Reproduced from
best available copy.



Rescue group undergoing diving preparations

1 The meaning of "neurogeny" (psychosomatic) came from the Greek word
1 See Encyclopedia, 30 May 1946.

That is why each commander and political worker must know, as must all who instruct and educate, the reasons for the appearance of unfavorable emotions, must have the ability to relieve them, and must take a person's disposition into consideration, and must create situations promoting the display of positive emotions. All this has an exceptionally important impact of the success of diving preparations.

Emotions, as physiological demonstrations, yield to education just as out muscles do. Education of emotions is above all acquiring the skill to overcome negative emotions so that a man can restore his strength. And how important good disposition and a supply of cheerfulness are before going under water! So armed a soldier or sergeant can settle himself psychologically and concentrate on overcoming difficulties and fulfilling the tasks set before him.

Formulation and development of soldiers' steadfastness against negative emotions is ensured above all by political ideological education and physical hardening. The guarantee against the appearance of unfavorable emotions is in strong communist conviction of our forces, skillful and resolute actions of commanders and political workers, their teaching tactfulness, cares about personnel, and stiff requirements. Consequently, measures directed toward sustaining tankers' favorable emotions and good dispositions play a very important role in party-political work for fulfillment of diving preparations. Commanders and political workers must choose forms of educational work with the troops which teach this. They are supported by human psychology, with its variety of means of overcoming problems and developing the skills for successful underwater acts.

As is known, man fulfills his work better if he understands its purpose and is deeply convinced of its importance and usefulness. Commanders and political workers substantiate the importance of diving in every way to develop this psychological state and place each soldier in situations in which he is certain to become convinced of this.

A man's faith, his attentive attitude, sensitivity, and caring have as much significance. All this affirms a man's belief in himself, in his own strength, and gives birth to the aspiration to prove his faith. If soldiers are treated with crudeness, indifference toward himself and his actions, then sooner or later he will lose interest and become unresponsive to learning and following what commanders and political workers say.

Take, for example, analyses of trainees' actions. They are varied. An experienced commander is guided by the positive moments of a soldier's actions in analyzing him; he discusses the soldier's shortcomings with great tact, not wounding the self-esteem of subordinates. Such analysis educates soldiers, inspiring them to new successes in learning and serving. Unfortunately, commanders are met who concentrate their attention only on subordinates' shortcomings, whether analyzing lessons or simply talking, neuron - tendon, nerve. This group of neural-psychological diseases arises most often under the influence of prolonged psychological experiences, during the fulfillment of excessively difficult tasks (especially if their fulfillment ends in failure).

who tolerate crudeness, and who sometimes touch subtle chords of subordinates' self-esteem. There is no doubt that such a negative approach to personnel in lessons causes a lack of belief in oneself.

From this can be seen the correct choice which is thrust upon officers and sergeants hoping to achieve successes in diving matters: means must be used which actively inspire subordinates and give them confidence, which means that the instructor must correctly learn the individual qualities of each man.

Propaganda and agitation perform a role of importance in the varied process of education during diving training. In this period there is one major goal for these measures: deepening of knowledge of military personnel on diving matters. Practice indicates that some soldiers unsuccessfully attempt to master all the theoretical knowledge of diving affairs during regular study time. Special work after class hours is organized for them. With this goal, commanders, political workers, and party organizations conduct talks with this type of soldier, present surveys of specialized literature, hold meetings with soldiers having great experience staying in gas masks under water, and use other measures.

In tank unit "X", Order of Lenin, Leningrad Military District, for example, the deputy political commander and senior doctor worked out the structure of a conversation on diving matters, selected officers, and organized their participation. In the process of teaching soldiers physics and physiology of underwater movement, in units conversations were held on the themes: "The Properties of Water," "Influence of Water On Man Underwater," "Problems of Ear and Lung Pressure and Preventive Measures," "Severe Oxygen Starvation," "Poisoning With CO₂ and Exhaled Gases and Preventive Measures," "Helping During Flooding and Other Fatal Situations," "Rules of Work In Recompression Chambers," etc.

Above all unit personnel willing read specialized literature on the recommendation of commanders and political workers. The tank troops read with great interest the books of N. N. Gorskiy, Voda - chudo prirody (Water - Miracle of Nature) and Puteshestviye po morskomu dnu (Travels On the Ocean Floor); A. N. Larnova, Plavaniye (Swimming); I. G. Fayzulin, Dal'niye plopy (Distant Sailing), V. Arhaxh, Gidronavty (Hydronauts), and N. I. Donikov, Vodolaz (Diver). This and other unit libraries developed exhibitions under the heading: "Interesting Points On the Skill of Swimming Far and Fast. Soldiers! We Advise You To Read It Through." Radio news programs periodically informed listeners about new literature, gave short annotations. Such work helps tankers master diving questions.

As we see, during preparation and execution of diving lessons, commanders and political workers, party and komсомол organizations use various mass techniques of education, thanks to which the continued party influence of the troops is guaranteed. Along with this an active role is played by individual work. The personal example of commanders and political workers, communists and komсомолists of units and sub-units is a tested method of mobilizing troops to master diving.

Success in carrying out political-educational work depends as much on skillful calculation of the specialties of each soldier as on deep knowledge by commanders and political workers of the general psychological laws. The path to the formation in tankers of high moral-political, psychological, and military qualities is detailed explanation to personnel of duties, the scientific organization of the educational process, the correct calculation of the psychological state of trainees, and the skillful use of more flexible methods of working with people. Educational work in the process of diving preparations is concentrated on tank crews. This is the basic cell for educational matters within the tank unit.

TANKS UNDER WATER

The tanks are moving!...Who did not reach a state of ecstasy from the beauty of the swiftly moving avalanche of steel machines? Who could remain indifferent, seeing how the steel-plated armada flew along the snow-covered field or marched in columns or passed in immaculate alignment along Red Square on parade day? Such a man could scarcely be found.

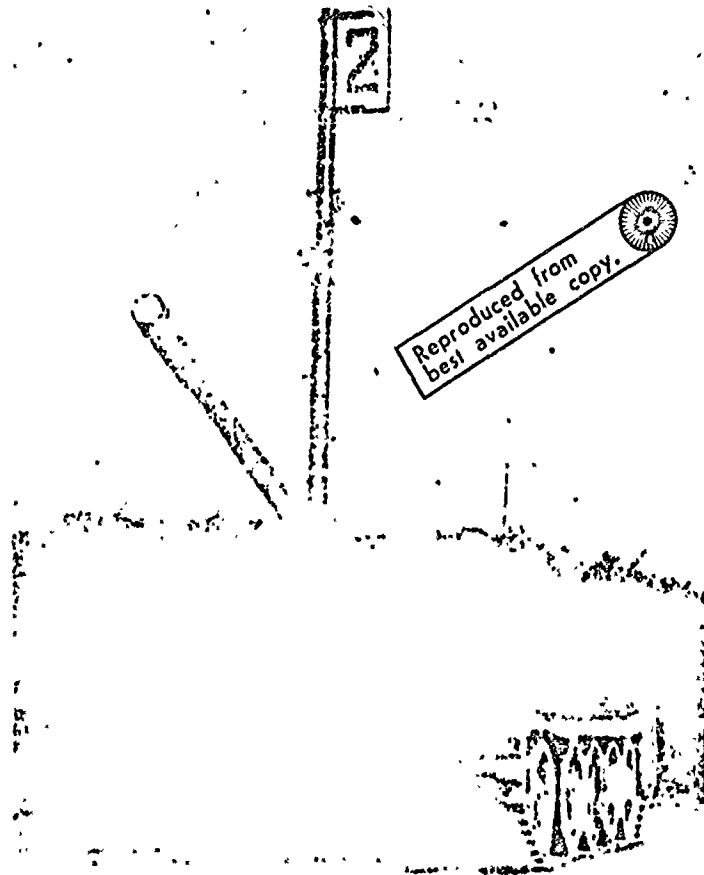
Soviet tanks covered thousands of kilometers in the Great Patriotic War across our homeland and behind its lines. The skillfully overcame the snow-covered space of Podmoskov'ya and the Belorussian swamps and crossed Kagiak and the swift waters of the Dnieper, Vistula, and Oder. The unsurpassed military qualities of Soviet armor and the high military skill of our tankers deservedly received high recognition. The unseen ease with which many-tonned tanks crossed barriers in their paths can be explained not only by the splendid military qualities of our machines. Behind the machines stand the skill of Soviet soldier-patriots and the colossal endeavors of the crews.

The modern tank is a complicated and terrible war machine. In order that it obey man's will, the tank commander, driver-mechanic, and all crew-members must study it perfectly, acquire vital skills, and succeed in controlling the great number of instruments. The tanker must be familiar with the areas of radio-electronics and exact optics, must understand instruments measuring speed, temperature, pressure, electrical conditions, etc. For fulfillment of underwater training duties, directional gyros are installed in tanks, making the military machines, in this respect, as is well-known, similar to submarines.

In order to avoid breakdowns of the tank on land and under water, the driver-mechanic, for example, must be thoroughly familiar with the arrangement and principles of action of each piece of equipment, he must clearly understand the physical and chemical processes that occur during the tank's movement. Without such knowledge he will work blindly, unable to respond to warnings of breakdown. This can threaten the fulfillment of training and military duties.

Why, let us say, is it necessary during the preparation of the tank for underwater movement that the equipment be so thoroughly checked to see that it is in good working order, greased, and cleaned to maintain working order?

Each driver-mechanic must know that the tank motor is under great stress during underwater movement. There is a pressure of about 18 tons acting on each piston during this time - that is, about half the weight of the tank. The temperature of the combustion chamber exceeds 2000°. This is enough to melt many metals. It is only thanks to the lubrication and cooling systems that the tank motor is not ruined under these unfavorable conditions. If the feeding and lubricating and cooling liquids ends, the film between the working parts will disappear, the bearings of the crankshaft will melt in a few minutes, the pistons will jam in the cylinders, the "heart" of the tank will fight with itself, and the war machine will stop immediately under water. This, in turn, necessitates flooding of the tank - a complicated and highly undesirable act, with the resulting evacuation under water. In battle conditions this leads to delays in forcing water obstacles, loss of priceless time, unjustified sacrifices, and slowing of the advance.



The contemporary Soviet tank is a powerful war machine; it is capable of acting under the most difficult conditions

What are the peculiarities of underwater driving? A tank, going several meters under the water, is in a more complex situation than on the surface. Air, vital for the working of the engine, enters through the air pipe installed on the turret before submersion. As ventilation worsens, more and more of the power of the engine is wasted on overcoming water resistance and expelling exhaust fumes. This disturbs the normal thermal regime of the motor, as it overheats more and more.

The driver-mechanic guides the tank blindly, able to see nothing under water. The driver-mechanic orients himself with the directional gyro and the radio commands of the crossing director. The current, if they are crossing a river, deflects the tank from the route and compels the driver-mechanic to make corresponding corrections. The density of the water causes greater resistance to tank movement. Adhesion of the caterpillar tread to the soil is worse than on land, causing extra complications in underwater movement.

All this calls for greater preparation of the driver-mechanic and more thorough instruction on the peculiarities of underwater driving.

During planning lessons the driver-mechanic and other crewmembers study the rules of underwater movement and safety measures, train with the OPVT installation¹ and practice sealing the machines and working out complex manoeuvres on land using instruments only. During this period, the commanders, their technical deputies, political workers, party and komsomol organizations all take care that each driver-mechanic clearly learn all that is necessary for successful underwater tank locomotion. The duty of party-political work during planning sessions is to create in tankers a lively interest in mastering their specialties, learning new and complicated areas of military preparations; also they must be mobilized to study the rules of motion thoroughly and conditions for carrying out of duties on an excellent methodical level without favors or oversimplification must be promoted.

Taking measures to guarantee high quality lessons on military preparations, commanders, political workers, and engineering and technical staff in cooperation with those charged with conducting measures to widen the military-technical horizons of driver-mechanics (especially the younger ones) promote study of the chemical and physical processes occurring during motor operation on land and under water and of the leading experience of moving, evacuating, and servicing the military machine. In its turn military-technical propaganda has special place, as do technical study groups, training, and the reading of specialized literature by driver-mechanics.

Independent work is a tested method of deep study of tank techniques and the rules of motion. Ask any experienced driver-mechanic, driving master, technical expert, and each will respond: the path to profound knowledge and hard, firm habits is independent work. Therefore, teaching each driver-mechanic to raise his military and technical knowledge independently is no little

- 1 OPVT - Equipment for Underwater Tank Driving, providing reliable sealing of war machines, normal air supply for the crew and engine, establishment of a routine, provision of an underwater course, stable communications, and safety measures necessary for the crewmembers.

matter. Realizing this, commanders, political workers, engineer and technical staffs explain to driver-mechanics the importance of independent work, recommend vital literature on study themes, and organize individual and group consultations. Above all, commanders and officer staffs systematically ascertain how independent preparations are being carried out and insure that they are as useful as possible for tankers.

In one guards tank unit of the southern forces, the driver-mechanic, for example, regularly studies in technical classes during hours of independent work. Literature, placards, electronic models, machine parts, and equipment are provided to strengthen their knowledge. The deputy technical commander works with the tank unit personnel. Officers give detailed answers to the tankers' questions, share their knowledge, and give advice. Master drivers can often be seen talking with young driver-mechanics about their experiences or about more rational paths of raising their driving skills, or on peculiarities of underwater tank driving. On the initiative of the political worker, special films on technical experts that supplement their speeches are presented. This bears good fruit. During inspections all driver-mechanics demonstrated strong military-technical knowledge and skill in applying their knowledge to the exploitation, serving, and custody of military machines.

Important conditions for raising knowledge of driver-mechanics include military-technical propaganda carried out under the direction of commanders, political workers, and party organizations. It helps widen the technical horizons of tankers, deepen their knowledge, and raise class qualifications. In battle such forms of military-technical propaganda as lectures, speeches, technical conferences, oral newspapers, radio news, performances of leading soldiers, consultations, etc. are widely used. Surveys of technical literature are transferred through local radio broadcasts; conversations and question and answer periods are broadcast. Unit libraries and Lenin Room councils conduct technical propaganda with the help of displays and albums. In smaller units with the same goals, technical circles are organized, quiz programs are held to improve the knowledge of techniques and equipment and their military application.

Experience shows that military-technical propaganda brings better results when developed in close connection with a program of military and political preparations, with consideration of precise duties assigned in the various units and sub-units, and when, along with the commanders, engineer and technical staff and experienced drivers, scientists, builders, industrial innovators, and communist shock-workers participate.

A highly recommended form of work in sections is technical conferences. This is an experimental form of generalization and diffusion of the foremost available experience. Conferences deepen the tankers' military-technical knowledge and their mastery of the necessary orders and regulations and underwater tank driving instructions, mobilize them to excel in tank driving under any conditions, and inculcate in them a love for armor tactics. Technical conferences are conducted, as is correct, at the unit level. In them the troops of one or several specialties take part. Conference themes are defined by the results of the lessons given during the latest instruction period. They may take place in the club, motor pool, or water training area.

The example of one unit of the Red Banner Kiev Military District in experience with methods of preparation and implementation of technical conferences should be noted. During the summer instruction here a conference on the theme "Foremost Experience In Mastering Underwater Tank Driving and Paths to Perfection of Methods For Crossing Water Barriers" was planned. Staff officers and technical units worked together with political workers and party committees. A month before the conference, in the club and in Lenin Rooms notices describing the theme of the conference, the time, and the place were posted. Personnel of the unit were notified beforehand with literature on the conference theme, and they saw the films "Tanks Across a Deep Ford," and "Organization of Technical Service." The film "Forcing Rivers Across Deep Fords and Under Water" was of special interest to the troops, for it described in convincing detail the methods of teaching young tankers diving affairs, rules for sealing tanks, and underwater driving procedures.

The radio news editorial board of that unit prepared two technical programs with the help of the engineering-technical staff and the master drivers. The deputy technical commander participated in one. He gave a detailed discussion of the procedure of preparing tanks for underwater motion. Driving master Sergeant Major and reenlisted communist I. Yumasov shared his experiences in mastering underwater driving of tanks. Then a report on underwater driving was given, and a technical quiz show was held.

On the day and hour set for the technical conference, unit personnel gathered spontaneously by the river. The unit commander opened the conference. In his speech he mentioned the problems that might occur in contemporary war, emphasized that tank troops must sometimes overcome water barriers, and gave special attention to the role of underwater obstacles in the path of a tank's success.

Subsequently the deputy technical commander spoke on the history of underwater tank driving and the theories of tank driving. Questions such as the rules and order of tank preparations for underwater movement, the more characteristic mistakes in sealing and underwater driving, and the actions of a crew in case a tank is stopped under water attracted much attention on the part of the troops and participants in the technical conference. The speakers showed the importance of deep technical knowledge for mastery of skills of underwater tank crossings, as well as strict observation of the course and the requirements of the director with concrete examples.

Demonstrations of how to manage tanks under the water proved interesting and instructive. They were given by master driver, Great Patriotic War veteran, reenlisted communist, Master Sergeant G. Istomin. The military path of this magnificent tanker began in a tank brigade during the Battle of Stalingrad. Order of Glory, Third Class; Medals "For Bravery," "For the Liberation of Warsaw," "For the Capture of Berlin," "For the Liberation of Prague," "For Victory Over Germany in the Great Patriotic War of 1941-1945," "For Military Service," "For Unreproachable Service" Second and First Class, "XXth Year of the Soviet Army and Navy," "40 Years of the Armed Forces of the USSR," "The 20th Anniversary of Victory in the Great Patriotic War of 1941-1945," "50 Years of the Armed Forces of the Soviet Union," "For Military Valor. In

Commemoration of the 100th Anniversary of the Birth of Vladimir Ilyich Lenin": this is the evidence of the courage, military mastery, and faithful service of communist G. Istomin to his Soviet homeland. In the post-war period he did not leave tanks: he extended the life of several war machines, saving the government hundreds of thousands of rubles; first in his former unit to master underwater driving, he remained a leader. He was charged with testing the equipment to be used underwater by tankers who were descending for the first time. He has driven underwater hundreds of times and gave his rich experience readily to young soldiers.

Having talked with conference participants about forced crossings of water barriers during the Patriotic War, Istomin answered the questions of each driver-mechanic in detail. He convincingly explained why the constant turning of the motor must be "felt" and the position of the choke must be correctly determined in relation to the current of the water in order not to allow the tank to slip while leaving the water and cause backwinding of the motor. Then he prepared a tank for underwater movement, implementing partial hermetic sealing, began to follow the underwater route on the command of the director, and prepared the war machine for firing on the opposite shore.

When all who so desired had participated, the unit commander summed up, made observations and gave encouragement to the trainees. The technical conference was instructive, allowed the foremost experience to be summarized, and outlined measures to perfect the skills of personnel of the unit in underwater tank driving.

Technical circles actively promote the raising of military-technical knowledge. The circles, as they should be, are of two types: for driver-mechanics, who prepare to raise class level, and for other tankers who express the desire to master specialties related to that of driver-mechanic. The circle's programs center around experienced officers and the unit commander approves them. Meetings are held once or twice a month. The circles are given material and technical help and share the use of equipment for driving exercises with the unit. The deputy political commander concerns himself with the circle's work and strives for regular meetings.

The units organize military-technical readings. Meetings are held once a month on Sundays. Lessons are read by experienced engineers, technicians, commanders and political workers on problems in improving mastery of methods of forcing water barriers. In one of these units, the Order of Lenin Moscow Military District its area, in military-technical readings lessons were read on the themes: "Characteristics of Rivers and Water Conditions," "Crossing Techniques," "The Theory of Underwater Driving," "The Military Experience of Tank Forces Forcing Water Barriers During the Great Patriotic War."

Considerable similarity will be noticed between the actions of the driver-mechanic when he guides a tank, a pilot in a plane cabin, a chauffeur behind the wheel of a car, and a radio operator transmitting and receiving if these actions of these different workers are compared. The driver-mechanic must be able to do everything. Therefore, not only knowledge but firm practical habits are extremely important to him. Systematic training is the method

of forming durable habits. This furthers the moral-political preparation of the driver-mechanic for underwater tank driving and develops automatic responses based on technical examples. Therefore, the unit commander continually takes measures to create conditions for regular practice by the driver-mechanic.

A Movie Training Apparatus, which is being seen more and more often in tank units and educational institutions, is a very good means of preliminary preparation of the crew. Though complicated, it is an irreplaceable method of achieving learning goals. When commanders and chiefs ensure that the training includes a special class for movies, they are acting correctly. The movie apparatus includes a guided model, movie projector, recorder to give the sounds of the moving machine, and a screen). The photoelectric cell, lighting the film, sensitively responds to the relief and gives a signal on the hydrodrive oil gear that in its turn is connected with the tank mock-up, to which vibration is transferred. The impression to the trainees is one of almost complete realism. The Movie Training Apparatus allows aspects of tank motion to be worked out in limited circumstances past obstacles and across water barriers, etc. Signal lights on a stand tell the lesson director about all mistakes made by driver-mechanics.

In a classroom with a Movie Training Apparatus one can make one's own production. In the beginning the deputy technical commander announces the driver-mechanic training order, relates driving rules, and then orders one of them to take his place at the training device. The soldier lowers himself through the hatch to the seat, puts on his helmet, puts on the throat microphone, and signals his readiness. The light goes out and on the screen appears a map of the area. The driver-mechanic sees that his machine stands in the motor pool, ready to leave. Not far away he can see the regulator. He has unfurled the flag and given the command: "Move out!" The driver presses the starter. The motor starts. The controls of the unit give the feeling of reality. He hears the regulator's command, "Forward!" The engine is in gear and the caterpillar treads begin to turn. The tanker trainee attentively follows the route shown by the apparatus, executing the necessary gear shifts, regulating the fuel flow.

Here is the first obstacle - a bridge. The driver-mechanic shifts to low gear and passes it. "Good!" The driver-mechanic hears the approving voice of the director. Again he shifts up, the tank gains speed, and once more an obstacle is seen. The war machine slows, smoothly passes the ditch and then a narrow passage, and again speeds ahead. A train of dust clouds the tank. The driver-mechanic goes on along the course. The fast machine rushes among trees. In the woods the first mistake is made. Ahead lies a contaminated area. Having reported the obstacle to the director, the driver-mechanic puts on a protective suit and proceeds. He continues on for several minutes more and then notices the water barrier on the horizon. The driver-mechanic shifts to low gear and directs the machine toward the ford. He hears how noisy the water is as the tank cuts it. Some minutes pass and the machine is on dry land. He shifts to third. The tank speeds forward. Suddenly the machine jerks. The motor dies; the many-colored ribbon of the road stops rushing up at the driver. The director caused such an occurrence because the trainee did not succeed in shifting down when he hit a shell hole. Appraising the mistake, the driver-mechanic again starts the motor and

continues until the director orders him to quit.

The classroom light comes on. Excited and tired from the effort, the driver-mechanic leaves the mock-up, reports to the director on fulfillment of the exercise. The officer analyzes his actions, notes the positive side, and points out mistakes. So whoever is next better listen carefully to the officer...

Then comes the director's command and the next driver-mechanic enters the mock-up. The other trainees in the miniature "motor-pool" repeat the driving rules, look carefully over the methods of overcoming obstacles.

The Movie Training Unit allows the driver-mechanic to receive practice in driving without using motor resources. Herein lies its value. But it cannot replace the special driving lessons in the tank park, water training sites and other teaching areas.

In tank units of our Armed Forces a educational materials base has been created which allows teaching driver-mechanics on the level of modern requirements. Tank parks and water training areas are now equipped with a complex array of installations where tankers learn how to overcome various obstacles, work out estimations by sight, arm themselves with skills in manoeuvring war machines in varied locations. Lessons in tank parks and water training areas working out exercises in driving are a very important part of military and specialized preparation of tankers. Qualitative execution is the object of the special concerns of the commander, political worker, and the engineer and technical staff. In this important regard the party and komsomol organizations share no little part. They join forces to successfully solve such questions as the perfection of the tank park and the water training area, the approach to realistic battle conditions in each lesson, the quality of working out of driving exercises, the raising of class qualifications of driver-mechanics, moral-political and psychological hardening, propaganda on the experience of masters, economy of motor resources, safety measures, and others.

Discussions of the important role of the driver-mechanic and the great attention we have given them is in no way meant to imply that we wish to detract from the importance of the other crewmembers. They are equally vital, and they also must have varied and important hard practical skills and high quality military-technical knowledge in order to act in a tank under water. We have already emphasized that a tank is a complicated collective weapon. Only a well-prepared crew, perfectly understanding the structure of the machine, which has learned how to use and service it in various situations, and which is prepared for underwater movement can completely use all its properties. Of course, each crewmember has first of all his immediate duty. Deep knowledge and skillful fulfillment of this is the first thing.

But in contemporary war this is not enough. In order that a tank crew, finding itself on the battlefield at less than full strength, may successfully accomplish its mission, each tank soldier must be ready to replace his comrade. In the same light, can a military crew allow a tank to stand still just because there is no driver-mechanic? Can they stop firing on the enemy if

the gun-layer is killed? Indisputably not! Or take underwater driving. The quality of preparation of the machine for underwater movement depends on all. Mistakes or negligence in the work of one crewmember can have serious consequences for all. In a word, military experience demands that in the crew there be a guarantee of full interchangeability. The basis for this is good technical knowledge and the skills of all tank crewmembers.

It is fully natural that the solution to this important task requires party-political work. With this goal in mind, measures are undertaken in units and sub-units which provide for raised technical knowledge of tankers, preparations on all sides of each crewmember. The educational of specialists, the achievement of interchangeability of crewmembers, and the development of socialist competition and military-technical propaganda are among the basic points.

Let us turn our attention to those questions directly related to underwater driving without touching on other important questions. During the preparatory stage the whole crew studies equipment for underwater driving, the installation procedures, the requirements for and methods of sealing the machine, the rule of underwater motion.

To achieve real mastery of these questions by each tanker and to develop hard skills in the trainees are two of the most important duties of commanders, political workers, party and komsomol organizations of tank units.

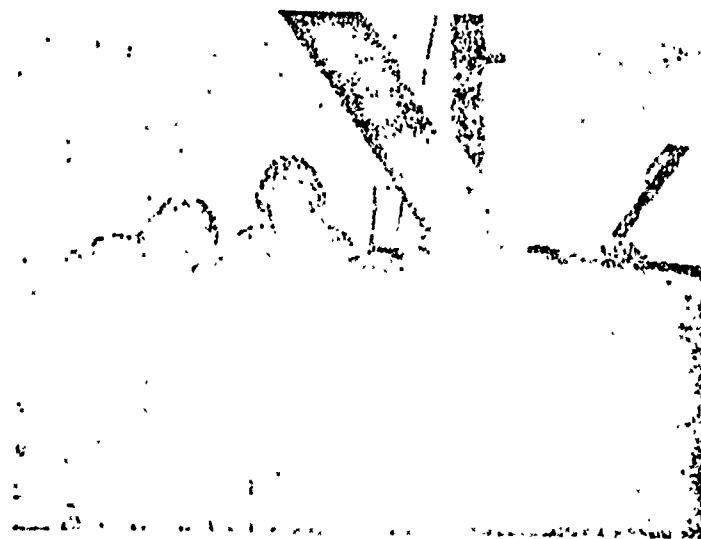
In war much is done in order that all crews learn quickly and prepare the tanks well for underwater movement. Engineers and technicians are zealous champions of continual heightening of technical knowledge of the soldiers, procure more effective methods and teaching examples, speed to inform each tanker of new knowledge, lead both planning lessons and individual crew work, and actively propagandize military-technical information. The commanders, political workers and party organs support the creative initiative of the engineer and technical staff in every possible way.

At party and komsomol meetings, in conversations, political lessons and political information sessions, as well as through other measures, they explain the importance of studying questions, propagandizing leading experience, and demonstrating paths to attainment of mastery.

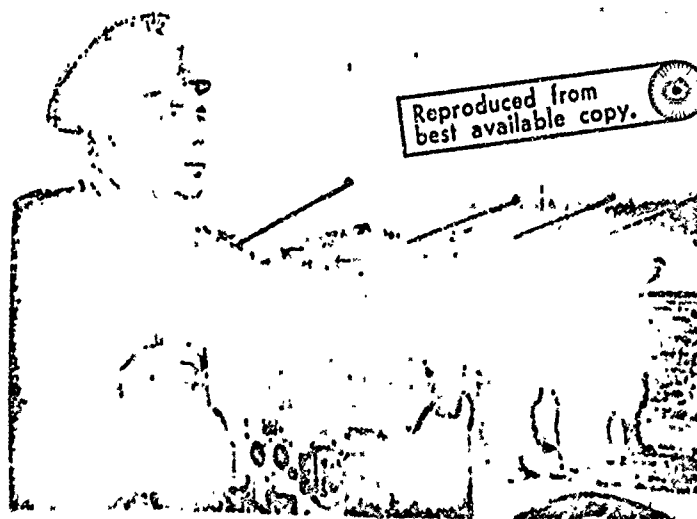
The struggle for excellence of communists and komsomolists in mastering underwater driving, in achieving exact fulfillment of directions along the driving course, in avoiding shortages and failure to master special exercises has been the object of continual concern by commanders, political workers, and party and komsomol organizations in the majority of units.

In this respect the experience of commanders, political workers, and party organizations of the guards tank Proskurovsko-Berlinskiy Order of Lenin, Red Banner, Order of Kutuzov Regiment of the Name of G. I. Kotovskiy deserves attention. Communists of this unit, according to tradition in the group of Soviet forces in Germany, are pioneers in many glorious things. They showed initiative in the competitions during the 100th anniversary of V. I. Lenin's

birthday. The regiment prepared itself excellently for the Lenin Jubilee. The communists decided in their open party meeting to continue competition for excellence until the conclusion of the jubilee year in the spirit of the praiseworthy meeting of the XXIVth CPSU Congress. All the soldiers, sergeants, and officers of the regiment supported the communists' initiative. The guards troops pledged to study the Leninist theoretical heritage tirelessly from that day forward, to fulfill the military precepts of the leader piously, to work persistently at improving their personal moral-political and psychological and military qualities, to hold high the honor of Soviet forces abroad, to strengthen international connections and military concord with the People's Army of the GDR and the armies of other fraternal countries. The forces of this regiment see the important task as not only strengthening themselves but also as fulfilling ever higher hopes in the area of military and political preparations.



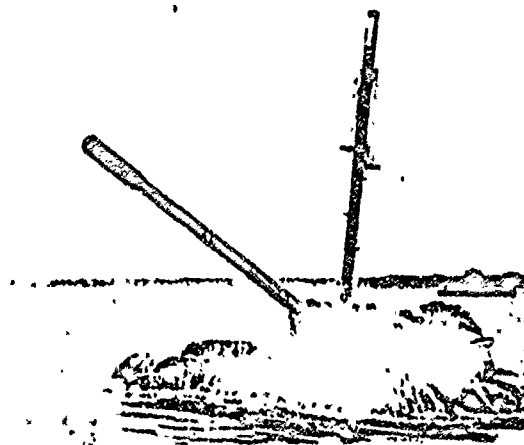
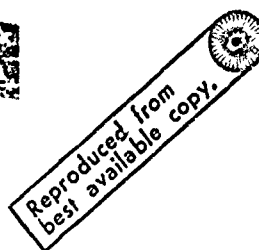
Preparation of war machine for underwater movement



On exercises in underwater tank driving



Tank descends



Tank emerges on the opposite shore

It was decided that each minute of lesson time would be used to the maximum advantage for perfection of military mastery and for the widening of political knowledge. Each specialist, discharged into the reserves, pledged to prepare an appropriate replacement. It was decided that no fewer than 70% of the specialists would be educated to First and Second Class. Each soldier masters a specialty. Communists and komsomolists took on the obligation to aid young soldiers to become successful specialists more quickly. Driver-mechanics took on great and responsible tasks. Up to the XXIVth Party Congress they resolved to fulfill each exercise with the mark of "excellent," to raise class qualifications by one grade, to drive

tanks up to standards day and night, to economize on fuel, to maintain equipment in military readiness at all times. These responsibilities are supported by persistent study by tankers, continual ideological and organizational work by commanders, political workers, engineers, technicians, and by the strengthening of the party will in every phase of military studies and troop service.

Political workers and their purposeful, creative endeavors play an important role in mobilizing the troops of this unit to the achievement of new successes in military studies. They do their work side by side with the commanders. They provide examples in mastering technology, raising class qualifications, mastering diving, preparing tanks for underwater movement across water lines. Political workers provide significant help in understanding military requirements by tankers, preserving close communications within the unit so all move toward fulfillment of party-political goals, actively helping commanders, engineers, and technicians in guaranteeing the high quality of each lesson. Political workers are active in underwater affairs and study concretely with every communist and komsomolst.

Other units also have had no little experience in this field. The day before implementation by unit personnel of exercises in underwater driving, the party organization of this unit held an open meeting "On Personal Example of Communists and Komsomolists In Mastering Underwater Tank Driving." In it a discussion of the theory and practice of fulfilling duties and guaranteeing a leading role to members and candidates of the party and to all komsomolists was carried on. In order to implement the decision that was made, the party bureau of the unit concentrated on the work of the crew. Communists were given the duty of talking to the tank commanders, driver-mechanics, gun layers, and loaders to ascertain their readiness, level of achievement, knowledge of safety measures; to see who needs help and to provide it. Such work with crews helped them to get to know people better, to find weak points in their preparations, and to organize concrete help.

Deeply studying the conditions of educational work, the party committee of the unit determined that in many cases the deputy technical commanders participate only weakly, that they often cannot organize, and that some mistakenly consider that education does not concern them. The following reason for this situation was heard. Political workers systematically studied with the unit commander, secretary of the party, secretary of the komsomol organization; they were systematically taught the practice of political-educational work with people, but engineers and technicians were forgotten and left almost unarmed with any experience in educational work. Steps were taken to correct the mistake, in that they talked with each engineer and technician, explaining the missions of various people and the work methods. Then they were invited to a seminar of sub-unit commanders on questions of education in underwater driving with regard to the psychological state of the tankers. Experience has confirmed the advisability of using such forms of teaching technical specialists in a systematic way.

Socialist competition in standards and duties is a tested method of

communist education of personnel and mobilization of the troops for thorough preparations in underwater driving. It brings the spirit of healthy competition to studies, develops rapid and persistent drive on the part of servicemen to master one thing after another. If competition is correctly organized, commanders, political workers, and party and komsomol bureaus (committees) play leading roles.

The company commanded by G. S. Vyunov is an example of successful organization of competition between crews in the process of teaching fulfillment of all work in preparation for underwater driving of tanks. The day before lessons, the commander, secretary of the party organization discussed how best to organize competition among tankers, crews, and platoons. The deputy company technical commander worked out a technical map of tank preparations for underwater motion. Each crewmember was shown in detail what to do. Such maps were given to all crews. These maps permitted more purposeful organization of work by each crewmember, a single inspection, comparison of the actions of crews, more precise determination of the competition victor. The tank commander studied the assignments in detail with subordinates and helped each crewmember to master his requirements.

On the predetermined day stands were set up at the lesson site saying, "Observe the Rules of Underwater Tank Driving Strictly," "Experience of Honor Students of All Tank Units" and placards were hung up saying, "Who Seals Their Tank the Best?" and "Rules of Underwater Driving." The commander again explained the goal and assignment, discussed the experience of sealing tanks by a crew commanded by a worker's messenger and Leningrad guards sergeant Aleksandr Badeyev (now secretary of a komsomol organization), called on subordinates to compete for quality and reach the norms ahead of time. He reminded tankers that at the end of the lesson, the results were to be brought to him, and the best crew would be given the right to demonstrate its mastery before all the unit officers. Then the crew, about which more was said later, was showed the sealing procedure. After a few minutes the war machine was ready for underwater movement. Practical orders helped a great deal. The crew began the training session. The commander and his technical deputies followed the quality of the work, helped to quickly eliminate deficiencies. After the crews worked out all questions of sealing the tank, the commander organized competition. At the end of the lesson, he received the results and named the victor. During the evening a notice appeared on the bulletin board reporting who correctly and quickly prepared their tank for underwater movement under the rubric "Victor of the Day."

Thus passed one company training day.

It is very important that the commander organize socialist competition, methodically develop training, and provide for the existence of conditions allowing the creative ability of the troops to be revealed. Here is an example. In two companies lessons of tank preparations for underwater travel were held. In one of them the director must not have thought through the methods he would use. He fixed assignments, explained the necessary arrangement of equipment to crewmembers, reviewed the procedures of preparing the machines for underwater movement, and set a time limit - 65 minutes out of a two-hour lesson - for independent practical work by the crews.

In another company affairs went differently. Here is their schedule:

- Laying out of goals and duties of the lesson: 2 minutes
- Discussion of the foremost experience of crew
commanded by Master Sergeant and communist
V. Sakharov: 8 minutes
- Demonstration of preparation of tank for under-
water movement: 15 minutes
- Training in the quality of tank preparation
in accordance with technical outline with no
time limit: 25 minutes
- Crew action preparing tank for underwater
movement with time limit, with observation
of the quality of the work: 25 minutes
- Competition in fast OPVT installation into
tank: 20 minutes
- Bringing of results and determining of the
victor: 5 minutes

The lesson director of the second company was more easily able to propagandize foremost experience, work out questions, and organize the competition, for he allotted, you see, a special period for each one. Obviously, the lessons were more interesting and worthwhile in the second company.

Skillful organization of socialist competition, promoting rapid, high quality fulfillment of each operation in preparing a tank for underwater driving, raises the level of learning of materials by the troops, the quality of the lessons, and in some measure brings an atmosphere of strenuous work to the day preceding the forcing of water barriers.

The important principles of competition, as V. I. Lenin emphasized, are its openness, the comparison of results, the ability to repeat practical experience,¹ and comradely cooperation. At this point the duty of commanders, political workers, party and komsomol activists is to converse about the distinctive results of the lesson in military leaflets, radio news broadcasts, and photo displays. An important place in this is set aside for such things as visual agitation - placards, displays, announcements, slogans. The brighter and more expressive they are, the more effective they will be. A sample of this type, for example, is the Great Patriotic War posters: "Mother Homeland Calls You!", "Not a Step Backward!", "Troops of the Red Army, Save Us!", "First, Raise the Flag of Victory Over Berlin!" and many others. They called to the struggle against fascist aggressors millions of Soviet people and mobilized our people for heroic labor in the name of the Fatherland. Concrete, operational, purposeful, and convincing visual agitation in peaceful days retains a profound impact upon the mind of the soldier and calls him to perfection of military skills, to heightening of vigilance. It is important that army artists, club workers be creative and esthetic in this work.

...However, it is time to set out for the water training site where the

See V. I. Lenin. Poln. sobr. soch., vol 36, p 153.

tankers of Captain Vyunov practice driving war machines underwater. Reconnaissance-divers specified the characteristics of the river bottom, explained the speed of the current, measured the width of the river bottom and the water temperature, and set out markers. The battalion commander, hearing the speech of the reconnaissance men on hydrological obstacles, evaluated the equipment of personnel, set the driving assignment, and gave orders to officers.

In the above command region the tankers started preparing war machines for descending under the water. Having received knowledge and vital skills in the process of continual studies and training, the tankers acted quickly and skillfully. The situation allowed the commander to explain the rules of underwater driving; sealing procedures were reviewed; socialist competition was organized; individual educational work was strengthened. Political worker V. Khlonkov and L. Palkov conducted talks on the themes: "Excellent Preparation of Tank For Underwater Movement - Guarantee of Success In Overcoming Water Obstacles," "Uninterrupted Communications - Important Condition For Successful Underwater Movement," and others. The deputy political commander of battalion reminded crewmembers of safety measures and shared with driver-mechanics his underwater tank driving experience.

The first tank to make the passage, as always, is the one scheduled by the commander as the best. After fulfillment of the exercise, the driver-mechanic briefly describes his experience to his comrades. This time the choice fell on the crew in which the driver-mechanic was komсомолист Junior Sergeant S. Vasiliev. Leaving the machine, he lingered for a second at the technical control point, but then quickly moved to the river. Already it was descending more and more and quickly submerged. The driver-mechanic attentively followed its progress. Somewhere in the middle of the river a slight movement to the left began. The current is faster, and under its influence the tank is attracted from the route. This is noticed from the shore. The driver-mechanic hears the radio command:

"Visla! Is - danger. Deflected left. Move to the right!"

"Acknowledged. Will comply..."

The Junior komсомолист promptly pressed the lever, moving the machine onto the correct course. Some more time passed, and the light of day penetrates to the machine; through the observation apparatus sand and green bushes can be seen. The mechanic increases the speed of the tank, blindly glittering wet in its armor, comes out of the water and moves in the thickets along the shore.

"Visla - is - On target. Exercise excellently completed. Return!"

Other crews acted with the same accuracy.

During lessons commanders and political workers helped inexperienced young tankers overcome their fears, encouraged them and advised on how better to act in submarine conditions. They still on practice gave many examples of

successful and courageous conduct on the part of tankers. These examples were used in lessons for convincing troops that each must be well prepared and highly disciplined and that they could then overcome any difficulty - so long as they preserved courage, willpower, and the desire to fulfill their duty. In particular the troops discussed widely the event that was written about in the newspapers.¹

...On field exercises tankers worked out military training problems. One company, its turn to demonstrate having come, began to attack the strong point. All was normal when the right flank tank suddenly disappeared.

What happened?

Evidently, there had been a lake along the tank's route. Then silt oozed in from the shore and bushes and grass grew over the top. Outwardly, this piece of earth appeared no different from the rest - meadow and bushes. But under the layer of soil was water. This marsh absorbed the heavy tank.

Having heard what happened, the company commander grew cold with surprise. Instantly he tried to contact the crew on the radio. No answer. The battalion commander was immediately informed. Major V. Andreyev suspended lessons and rushed to the place where the tank was with a group of experienced tankers. No sign was left. Tracks remained, as if cut by a huge knife; there was still a small area of gurgling water.

"We can't reach the bottom!" cried one tanker.

An antenna was unscrewed from one tank and brought over. It was buried completely. Two antennas were connected. No firm ground could be felt. At last the characteristic metal sound. The tank! The depth was rapidly measured - almost seven meters...

First Master Sergeant reenlisted V. Borisenko dived into the marsh. Meter after meter he descended through the sticky marsh water. But he could not reach the tank. After him went Sergeant B. Bazylev. He was pulled to the surface almost unconscious.

"Let me go down," asked Junior Lt. M. Sinenko of the battalion commander.

"Go ahead," agreed Major V. Andreyev.

The officer tied a rope around his waist, put on a gas mask, took two weighted shoes in his hands for ballast and went into the water. All waited for the result of his descent. The time dragged with tormenting slowness. A minute, another... Then they pulled him up. The Jr. Lt. was pulled out unconscious. When he revived, he reported, "There is a layer of soil under the water. I can't make a hole in it. We'll have to clear it."

Eighteen men of the battalion, risking their lives, dived into the swamp, trying to reach the tank. Some time later, the troops had feverishly cleared the area: bushes cut, roots ripped out, silt thrown aside.

¹ See "Red Star," 19 July 1970, "Komsomol'skaya Pravda," 14 August 1970.

What was happening to the crew during this time?

When the tank unexpectedly dropped its nose somewhat, then, rocking, fell through, as if over a cliff, the motor died. It was dark in the machine. Quickly they heard the shock - and the tank sat on hard soil.

Some time passed with all of them in a torpor. Then the hard voice of the tank commander Sergeant Yu. Dryzhinin resounded: "Turn on the duty light."

The Sergeant questioned subordinates (all were unharmed) and wanted to report to the commander. But he could not communicate. The Sergeant tested the correctness of the tuning and then periodically began signaling and transferring to receive.

"Perhaps we could open the hatch and try to get out?" suggested someone.

"No!" the commander stated categorically. "We don't know where we ended up. Judging from the surface, there is more than water over us. We can hold out in the tank for some time. We must be found," he concluded. "We must."

All understood that the commander was right.

Experienced as he was, the driver-mechanic succeeded in taking the machine out of gear. In a difficult situation one could forget this. But his self-control, sense of responsibility to the fate of crew and machine, and knowledge of things allowed him to prepare the tank in advance for evacuation.

...The lamp was shining dimly. From below water was seeping in.

"We can try to start the pump," suggested the driver-mechanic.

"Do it," agreed the commander.

The driver-mechanic went into the cold swamp water. The pump worked. Fortunately, the outlet was open, the lid torn away. The pump began eliminating the water.

"Documents and komsomol cards must be saved," worried the gun layer. The documents were collected and laid in the cannon. There they were safer. Only waiting remained.

The radio operator of the commander's machine constantly sent signals. Nothing was heard in the earphones. Suddenly the characteristic crackle, then a weak voice:

"We hear you! We hear you!"

"Comrade Major! They're answering!" the operator yelled joyfully.

V. Andreyev seized the microphone.

"Sergeant Druzhinin! How are your people?"

"All alive, comrade Major," reported Yuriy Druzhinin. "Water seeping in. Duty light is on. Breathing is fairly difficult."

"Hold on, comrades; we will help soon."

The major ordered spare strength to be conserved - they were not to move needlessly, not to speak, to try carefully to use compressed air from the tank for starting the motor. Already 15 minutes of watery captivity had passed. The water level was rising. The space in the tank between the water and the top became so small that four people, picking up their legs and pressing together, fully occupied the area. Air diminished more and more. The compressed air tank was under water. The gun layer went down and grabbed at it. At first he was unsuccessful. He tried again..and again. He made it. Breathing grew easier. But the air pressure rose, causing sharp pain in the ears and noise in the head. When breathing became so difficult that one comrade was injured, the other three moved quickly to help him. Their heads spun from oxygen starvation; their ears rang; their hands and legs lost their feeling. Nevertheless these three forced themselves to move to help their comrade, who was even worse. Their willpower was incredible. After spreading an overcoat over the defensive cannon, they laid their weakened, unconscious comrade there.

At this time a diver arrived. Lines were attached to the tank, and the evacuation began.

"Comrade Major, we cannot breathe...We are losing consciousness."

"All is ready."

The four quiet men moved from their place. The rope stretched. Finally, the sunk machine appeared at the surface. In an instant the hatch was opened. The rescued ones caught good, friendly, ardent hands. For four hours and 50 minutes the crew had stayed under the water and soil, but their commander and comrades on the surface had put forth desperate efforts in order to rescue the crew that found itself trapped.

Four resolute, skilled tankers passed their severe test with honor. They were all 19. Komsomolists. The commander of the tank Sergeant Yuriy Druzhinin was from Moscow. He worked in a scientific research institute after technical school. Gun layer Leonid Purgin was from Gorkov, with a worker's background. He completed the tenth year at middle school, then worked in a factory as a metal craftsman. The metal worker and the Moscow driver-mechanic Sergey Kuz'yakin were both born in the last decade. Loader Aleksey Feofilaktov was also from Moscow. He finished middle school and toiled as a lathe operator.

Having fallen in a desperate situation, they retained their presence of mind and thought not only of themselves but also about each other.

In a word, they acted as though in a real war. It was significant that the fathers of all four had fought at the front in the Great Patriotic War. Not once had their sons heard their emotional stories about hot war, about strong friendships at the front. Having fallen into a difficult situation, they conducted themselves as their fathers had told them to, as their commander had taught. These fellows were saved by courage, discipline, fortitude, military comradeship.

Reproduced from
best available copy.



Crew of a military machine. From left to right: Private L. Purgin, Sergeant Yu. Druzhinin, Private A. Feofilaktov, Private S. Kuzyakin

Druzhinin, Kuzyakin, Purgin, and Feofilaktov passed several days in the hospital. They recouped their strength and returned to work.

Their skillful and courageous actions, their discipline, and their self-control are instructive for all soldiers.

During military training and in the process of preparing lessons, commanders and political workers carry out measures to warn tankers of excessive self-confidence, carelessness, acting like an "underwater daredevil." Someone who has never successfully gone under the water may aspire to overcome water barriers at top speed, but during tank preparations they don't do everything according to instructions. During one training session a crew prepared the machine carelessly for underwater driving, and the driver-mechanic did not drive it in the prescribed gear, in violation of safety regulations. The result was that the tank leaked a large amount of water during the crossing. And only clear management by the director averted stopping of the machine under water. The party bureau quickly reacted to this and gave extra training to this and other crews.

In teaching tankers underwater driving oversimplification and weakening

are intolerable. They seriously influence not only the quality of teaching but also moral-psychological hardening. Let us explain this with an example. Tankers of one sub-unit were studying underwater driving. ~~Some~~ troops trained in tank preparations. Another group worked out techniques of driving without observation equipment. A third carried out exercises in underwater driving. Outwardly it appeared that all had been thought out in advance with lessons going according to plan. But this was only external.

If one looked at them attentively, it would be clear that the tank crews were learning in a narrow, shallow reservoir. Crossing it required only a few minutes. In a word, the tankers still had not felt underwater conditions. And the ones crossing did so in machines prepared by other crews. Only one tank was under water.

The result of the lessons would have been completely different if they had used a wider water barrier, and each crew had carried out all stages of tank preparation. In this case important warnings of deficiencies and concern about correcting them were lacking. Thus, the lessons were not carried out efficiently and the underwater driving was sham practice and the soldiers received little moral and psychological tempering.

The political workers of the unit and elements are continually at the water driving area while units are working out exercises in underwater driving. They scrutinize the content of the lessons, require from the director and personally take measures to insure that before the lesson thorough reconnaissance of the underwater route is organized so that evacuation can be accomplished in accordance with the director's orders if necessary. Political workers do not substitute for element officers; they turn the tankers' attentions to the necessary strengthening of organization and help with advice.

For fulfillment of exercises exact and absolute observation by tankers of safety measures acquires great importance. These measures are dictated by the specific conditions of underwater tank driving. Commanders and political workers organize a period of explanation to personnel of the director's requirements, rules of safety for underwater driving; they mobilize the troops to study thoroughly in order to fulfill the requirements of these rules; they are concerned with guaranteeing the crew special clothes, diving equipment, and protective means for rendering help in any way needed.

Along with party and komsomol organizations, the deputy political commander strives for excellence of communists and komsomolists in studies, propagandizes their leading experiences, appraises each crew, describes the mistakes crews make, and leads short discussions on successful acts of the best soldiers.

Considerable work is done with the troops concerning evacuation service. Requirements of the director are explained, recalling the importance of constant observation of tankers and readiness to help them at any moment. Examples of courage and heroism by men at the front are popularized. One of the most important tasks of political workers is to strive for constant readiness of the rescue service.

And how are underwater driving lessons conducted at the regimental club? Accumulated knowledge teaches: the work place for underwater driving lessons must be the water training area. But the club can have an essential influence on the attitude of the troops and the quality of the lessons since it has means of technical propaganda at its disposal.

The club of tank unit "X" develops its work in an interesting and purposeful manner. The day before underwater driving lessons, the club organizes a radio broadcast for the troops and shows military training films. During lessons the latest news is brought to the troops and radio shows and photo displays are presented. After the lessons radio news and bulletins are issued. For example, the editors of a local radio broadcasting unit organized a program on the themes "Iron Discipline and Organization - Guarantees of Mastering Underwater Driving," "Safety Measures For Underwater Driving," "They Excelled During the War Years." All the crews of one company performed well in training. On the same day the club organized a radio broadcast called "People and Deeds of the Foremost Company."

There were occasions when tankers broke safety regulations during lessons. The commander and political deputy having discussed this with the club, the club organized a series of radio broadcasts in which it criticized those who violated the director's requirements and the rules of underwater driving of a war machine. Such broadcasts had a charitable influence on negligent soldiers.

The release of the club picture newspaper "Training Day of Driver-Mechanic A. Solov'ev" was met with great interest on the part of the troops. Another club paper was entitled "Preparation of The Tank For Underwater Driving." It was no accident that they were met with interest. The sequence of preparations of a tank for underwater movement and safety rules were portrayed in them.

Since tankers in training cannot always hear the latest news, the club taped a report and gave it to personnel at a convenient time. This allowed the troops to keep up with the events of domestic and international life.

The unit club widely used form of publicizing leading experience such as publication of photo bulletins leaflets like the one which read "Skillful Actions of Tankers" and was dedicated to the crew commanded by Jr. Sgt. A. Bliganov and V. Stukalin. This crew repeatedly made successful underwater river crossings. Thanks to the actions of komsomolist O. Petrov the bold leaflet "He Saved the Life of a Comrade" was published. Picture bulletins such as "Tanker Sibirtsev," "Underwater Ace," and "Tank Commander" told unit personnel about the actions of these masters of military deeds.

Concrete club work actively influenced the quality of lessons on military and specialized preparations, promoted political and military education of personnel, and spread and instilled the foremost experience of underwater tank driving.

But at that point the lessons ended. The commander and his technical and

political deputies made a detailed examination of their subordinates' actions, evaluated the work of the crews, and determined the victors of the socialist competition. The deputy political commander discussed the leading role of communists and komsomolists, the work of party and komsomol activists, the unit agitators, the editors of military leaflets, the communist group organization. Finally at the analysis session he made recommendations concerning the instilling of leading experience.

During the period of underwater tank driving, the party-political work is transferred to the water training site and is directed toward the ultimate perfection of the troops' moral-political and psychological qualities; to the raising of conscientiousness and military mastery by tankers; to the strengthening of their wills, discipline, courage, initiative, and love for the techniques of war; to the development of a feeling of responsibility for preserving these techniques; to the strict observation of safety measures and the continual maintenance of military preparedness.

IN LESSONS AS IN BATTLE

Dnieper. Far, far off the dove-colored haze hid the enemy-held shore. Sub-units and units of the Easterners came to the river. Their former homeland remained behind. They had gone many ten's of kilometers with the war. Ignoring fatigue, soldiers, sergeants, and officers bustled about the tanks, cannon, rocket launchers, transport and specialized machines. The commander and staff worked out data on the situation, calculated, decided, gave out orders. Unit and sub-unit political workers and party organizations unfolded a struggle for fulfillment of military duties. Shortly, an open party and komsomol meeting was held. Everywhere military educational work seethed. Each person understood the seriousness of the forthcoming tasks and prepared themselves for success with a feeling of great responsibility.

You see, the forcing of the mighty water line, the right bank of which was held by the enemy Westerners, was in prospect.

The history of the military art leads past isolated accounts of crossings of big rivers, crossings that were successful because of the special displays of valor by the soldiers and commanding skill by the leaders. The offensive with forced crossings is the most difficult of military operations. Water lines separate, albeit temporarily, the front and rear organizations. All crossings are very vulnerable to rocket attacks, artillery fire, and planes. The use of reserves from the rear areas is impeded.

Before the commander and staff lay a most difficult task - trying to be strong on both shores. A rapid charge across the Dnieper was needed for this. It was not by chance that the commander, political worker, and staff worked all night in tense concentration to resolve this problem...

Down. Each unit, tank, cannon was ready to attack.

Already the artillery thundered. The Easterners began to neutralize the Westerners with a layer of fire. The artillery salvos were strengthened by rockets and bombs. Firey plumes rose on the enemy bank. The Westerners opened answering fire and launched a massive plane attack on the Easterners. A transient air war of supersonic planes began. The fire duel was short. With the last salvos of artillery from the Western shore of the Dnieper, the Easterners began the crossing. Only hundreds of tanks and armored transport

vehicles could be seen moving across the huge space of the Dnieper. Cleaving its cold waters and disturbing the mirror-surface, they opened fire on the enemy from all sides.

Having crossed to the enemy shore, the powerful armored machines rushed into the depths of the enemy defensive position. There, across the Dnieper, the paratroop landing was already taking place. Engineering forces set up several pontoon bridges in rapid succession, over which the Easterners' columns poured. Here no boats or rafts were needed.

Participants in the Great Patriotic War remember the huge expenditure of strength and costly sacrifices that were made in crossing the Dnieper at the Bukrinskaya Bend in the autumn of 1943. The reinforcements of sappers and the local population together required 11 days to build a bridge 700m long. That was in the last war, when our army did not have rapid deployment pontoon bridges, automatic caterpillar ferries, floatable tanks and armored transport vehicles, and special underwater driving equipment.

In the "Dnieper," "Dvina," and "Armed Brotherhood" Exercises, our forces showed how to force water barriers. These exercises confirmed that the material-technical base of our forces would permit units rapidly to force rivers on a wide front, continuing to attack just as they had done up to the water line. But much persistent study in field exercises is necessary for this.

Tactical studies are the most important means of raising the forces' capabilities, ability to make decisions, and military perfection. In many ways they determine the level of unit preparedness and are an indication of the units' military preparedness. The importance of field exercises under modern conditions when the technical equipment of the army has grown immeasurably is especially well understood. Nuclear rocketry has required a whole new set of maneuvers on the part of our forces. Many tactics now are based on the forcing of rivers, bays, and other water barriers and therefore become serious tests for tankers, motorized rifle units, intelligence troops, sappers in overcoming water lines under conditions of war.

The rich experience of the Soviet Armed Forces convinces one that the essential influence on the quality of tactical studies, and, as a result, on the level of field training of tank units, is concrete, purposeful, and continual party-political work. It provides a deeper understanding by personnel of the rules and peculiarities of contemporary general warfare, of the rules for using military equipment, and, finally, of problem resolution in teaching the troops what is demanded by war. In each concrete circumstance, the maintenance of party-political work is determined by the missions set before each unit or sub-unit.

During the preparation and implementation of lessons, the full arsenal of means for party-political work is directed toward the education of troops in high offensive spirit, aspiration to fulfill military tasks, desire to master the best way of using equipment and weapons, continual maintenance of strict organization, vigilance, and discipline. As is correct, during this

period commanders, political workers, the engineer-technical staff and officers of the reserve can actively prepare personnel (for lessons) and equipment and teaching aids so that material-technical security will be planned out in every way.

The important organizing base of all this is the plan. For example, the deputy political commander of a tank company, battalion, or any unit, after having sized up the lessons that are planned, their duration, peculiarities, conditions of materiel provision, will outline measures for lesson preparation by party and komsomol organizations; the political workers will work with officers, sergeants, and various categories of specialists (tank commanders, driver-mechanics, intelligence, drivers) to determine the direction of agitational propaganda and mass cultural work, its form and content. In view of the possibility of underwater tanks overcoming water lines (though beforehand this may not necessarily be known), he checks over the work of crew preparation of machines for underwater driving and watches the crossing when it does take place.

It is sometimes noticed that detached political workers, little acquainted with party work and the conditions of war, have a passion for measuring. If, for example, a discussion on driving rules is in prospect, they will try without fail to collect every person in the unit. When the discussion is intended, say, for signal troops only, then the officer participates before the start of the movie, at which time troops of all specialties are supposed to attend. This complicated educational work and, therefore, in our view, is not advisable. Plans should be made thoughtfully, with consideration of the place, time, and requirements. Certain statistical investigations concerning the participation of servicemen in various activities are not without interest. It turns out that measurements made on a regimental scale, as is correct, show a participation rate of only 40-50% of all personnel; at the battalion level 70 - 80%; within a company close to 100%. This again confirms the fact that the center of party-political work is the company or battery. Namely, it is here where the conditions for practical application of the principles of party-political work - clearness of purpose, operational effectiveness, differentiation of approach, and fullest possible coverage of personnel - are available.

Great staff and officer preparation efforts for guaranteeing successful actions of the personnel in field exercises must be put forth before beginning tank lessons. The fundamental transformation of military affairs resulting from the shortening of the term of service has made demands upon tank units in this regard.

The role of the commander and all officers at lessons on overcoming water barriers continues to increase. They bear full responsibility for avoiding underwater incidents and for the organization and implementation of crossings. The regulations of war oblige commanders of all levels personally to oversee the political and military education of subordinates, being guided by their activities in party and komsomol organizations. They must use all their strength to achieve successful fulfillment of lessons and military duties.

The arming of officers with the leading experience of party-political

work is a component part of all military and tactical training preparations. In units with a headquarters company, engineers, technicians, officers of the staff usually conduct seminars on the forms and content of political-educational work in training, meetings, group discussions, as well as individual instruction, with the above goal in mind. Party bureau staffs of party organizations give communists the task of promoting the strengthening of educational work with intelligence, signal, sapper, repair, and rear service units. It should of course not be overlooked that they can also be given the mission of carrying on talks or organizational work in sub-units. Communists of all the major services of the headquarters and rear participate in this.

Party-political work with officers of one tank unit of the Red Banner Belorussian Military District is conducted in this way during preparations for lessons. A meeting was held in the party organization headquarters at which communists reviewed their duties, exposed shortcomings in lesson preparations, and outlined corrective measures. Tactical theory on sub-units rapidly overcoming rivers in tanks along the bottom was taught. A list of literature and magazines recommended in conjunction with tactical studies was passed out. The approach of the tanks of a sub-unit, tactical examples of forcing water barriers, and materials with descriptions of the experience of party-political work at lessons are among the major schemes of action found in this literature. During the evening qualifying officers conducted consultations on possible hydrological problems that might be encountered in lessons, on the factors of nuclear weapons, on the main methods of sealing tanks, and on the peculiarities of their underwater driving.

Lectures to widen the theoretical horizons of officers were promoted on the themes: "Peculiarities of Forcing Water Barriers By Crossing of Tanks Underwater," "Possible Radiological and Hydrological Situations At Water Lines," and "The Organization of Rescue Service at Water Lines."

Military-scientific conferences on the themes of the lessons were conducted in the unit in addition to commander's duties, resolution of tactical problems, and headquarters training sessions. After a speech by the unit commander on contemporary views on the speed of the offensive of land forces with tanks overcoming water barriers, others participated in the conference. The deputy political commander gave report on the theme "Party-Political Work During Offensive War On the Experience of the Great Patriotic War." Other participants gave talks on the themes: "Deployment of Sub-Units During Forcing of Rivers by Tanks Underwater," "Paths of Shortening Time For Sealing Tanks When Warned of Enemy Nuclear Strikes," "Night Forcing of Rivers," and "Principles of Using Water Lines For Defense From a Foreign Army."

The speeches of the conference were creatively prepared, with the use of special literature and experiences accumulated in the unit.

The deputy regimental political commander plans and conducts special training just for political workers before the start of tactical lessons. The seminar helps them to remember certain theories of general war, the use

of arms of mass destruction, particularities of the organization of military actions by the enemy, and the methods of implementing important points in party-political work during lessons. The lesson themes for political workers can be varied. The important thing is that they clearly predetermine how sub-units will act under certain circumstances, what duties the sub-units will carry out, and what the political workers should do in order to aid the sub-units in their mission.

During the preparatory period of tactical training the experience of past wars must be more actively used and more boldly propagandized. Although a revolution has occurred in military affairs in recent years which has seriously altered the technical means of war, armaments, troop organization - bringing about much which is new in fighting methods, the military experience gained on the battlefields of the Great Patriotic War has not lost its significance even today. At the Jubilee Military-Scientific "50 Years of Soviet Armed Forces" Conference it was emphasized that in the future it would be necessary to summarize and analyze the experience of the civil and Great Patriotic Wars.

During the Great Patriotic War, Soviet officer-tankers showed mastery of driving tanks; they were bold and decisive commanders and successful educators. Under difficult military conditions, they constantly sought and found such tactical methods as allowed the greatest use of the military capability of the tanks, to the point of dictating their will to the enemy and reaching over him for decisive victory. Officer-tankers unraveled enemy maneuvers, answered with countermeasures, warned of enemy blows, and used the best moment for the rapid forcing of water barriers. The names of such magnificent organizers of tank forces as S. I. Bogdanov, A. Kh. Babadzhanyan, A. S. Burdeynyy, A. L. Getman, I. I. Gysakovskiy, D. A. Dragunskiy, M. Ye. Katukov, A. G. Kravchenko, D. D. Lelyushenko, A. I. Parsiyevskiy, P. A. Potemistov, P. S. Rybalko, P. P. Poluboyarov, I. I. Yakubovskiy, and others were good news.

It is no secret that there are fewer and fewer officers in our units who participated in the Great Patriotic War. Therefore, it is important to propagandize the experiences of these officers more with books on military service and military memoirs and all the new, interesting works that come out each year so that officers will acquire a taste for reading magazines like Kommunist Booruzhennykh Sil (Communist Armed Forces), Voyennyi vestnik (Military Herald), and Voyenno-istoricheskiy zhurnal (Journal of Military History), in which the experience of military and party-political work in the Great Patriotic War is illuminated. In propaganda accumulated by tank forces are details of the actions of tank and mechanized units in difficult situations during deep tank raids into the enemy rear and during the forcing of water lines. These stories must be thoroughly analyzed and taught.

Important educational work is carried out in the preparatory period as well as at other times, with different categories of soldiers. The success of any tactical study in overcoming water barriers depends to a great extent on the skillful actions of tank commanders, driver-mechanics, driver-recon-

reconnaissance soldiers, chemical-dosimeter forces, rescue troops, signal corps, sappers. During the overcoming of water barriers with underwater tanks leading the way, each of these groups carries out a responsible mission.

We spoke about the important mission of the tank commander in the process of training the crew in the water simulator earlier. Here we must emphasize that during preparations and implementation of tactical studies, his significance is immeasurably greater and more complex. He heads the crew and carries full responsibility for their military preparedness, for the quality of the preparations of the war machine for underwater movement, for exact observation of the rules of underwater driving, and for the crew's actions under enemy nuclear attack. When the tank has an accident underwater, the tank commander organizes rescue. At this moment a new responsibility is laid upon him. Above all, he is the man who substitutes for the driver-mechanic in case of necessity. Therefore, on the day before tactical study, complete preparation of the tank commander is given new attention. In a word, measures that actively promote the development of high moral-political, psychological, and military qualities and arm the tank commander with the knowledge and skills of political-educational work with substitutes are implemented.

The driver-mechanic fills a special place in lessons concerning the forcing of water barriers by tanks underwater. If the brains of the tank crew, emphasized the great Marshal of Armored Forces P. Rotmistrov, is the commander, then the heart of the crew is the driver-mechanic. On him lies the greatest physical load and the responsibility for continual military readiness of the machine. Success in marching, attacking, and forcing water barriers and radioactive zones depends often on the skillful, masterful actions of the driver-mechanics, on their technical and tactical competence, and on their endurance, courage, and heroism.

Commanders and political workers of sub-units, engineer-technical corps, and party and komsomol organizations continually attend to the complete preparation of the driver-mechanic, especially before tactical training. Lessons are organized with them on regulations, directions, manuals, safety measures, driving of war machines. Units often have technical conferences, quiz shows, and evenings of questions and answers. These measures allow better learning and inculcation of the foremost experience of the best driver-mechanics in the minds of young tankers.

During the study of underwater crossings, reconnaissance men must do difficult work. As is correct, these are excellent swimmers, experienced underwater men, resolute and self-controlled soldiers. From their dexterous actions comes the possibility of rapid passage of tanks underwater. Under the conditions of war, diver-reconnaissance men must not only study the character of the bottom to determine the possibility of tank crossings but also clear mines and obstacles.

It is known that in the armies of imperialist governments great significance is given to the creation of underwater sabotage groups with thorough

preparations and the capability for powerful attack. In the US, England, and other armies the military experience of Italian, German, and Japanese underwater saboteurs is studied and used in aggressive wars against the freedom-loving peoples of Asia and Africa.

All this must be learned during the preparation of our underwater reconnaissance. Tasks consist of arming reconnaissance men with the knowledge of the properties of water barriers, the use of special equipment, the acquiring of a feeling of responsibility for assignments, the systematic growth in each of them of boldness, initiative, attentiveness, resourcefulness, endurance, and other vital qualities.

The overcoming of water barriers with tanks underwater leading the way requires calculated and well-organized work by evacuation rescue troops. The meaning of this type of service consists in paths for rapid evacuation of tank crews underwater or the carrying out of rescue work in a flooded tank to guarantee regular work along underwater routes and the safety of tank movement. Evacuation rescue service is organized at each underwater crossing and is formulated from personnel of repair units, sappers, divers, and the medical corps. To be successful, evacuation rescue troops must be skillful swimmers appropriately prepared for diving and accustomed to working underwater in order to organize the evacuation of crews and machines. In consideration of this, commanders, political workers, party and komsomol organizations conduct educational work with them. They explain the importance of rapid and skillful actions during rescue work and aid them in their first attempts at learning with instruction, directions, leaflets. During the lesson periods party and komsomol groups are created, agitation is decided upon, and war leaflets are edited in rescue service sub-units. The leaflets are subsequently used to provide detailed instructions and advise on how best to carry out educational work.

In one unit with rescue troops the day before lessons educational work was conducted. The deputy regimental political commander and the technical workers charged with organizing this service conducted discussion, constructed party group organs and komsomol group organs, and, with them, reviewed the arrangement of communists and komsomolists in groups. Agitators and editors of war pamphlets received vital materials and instruction. Engineer Captain V. Rovnik, a member of the party committee, recalled safety measures and rules for attaching tow lines to towing hooks of tanks underwater. Rescue service troops listened to a discussion of the theme: "Rules of Penetration into Flooded Tanks and Organization of Rescue of the Crew," "Procedure of Attaching Towlines and Towing Off the Tank," "Rules of Descending Underwater," "Demonstration of First Aid to Victims," and "Actions Under Enemy Nuclear Attack."

In order for the party to influence the troops continually during training, political workers and the party bureau (party committee) must be concerned with preparations for study between the troops and party and komsomol activists. The support of each party organization in carrying out party policies, in practical implementation of decisions of party meetings, in the mobilization

of all unit personnel for successful resolution of duties of tactical lessons is important. Various forms of organizational and agitational mass action are used in work with activists.

Seminars are a tested form of preparation of activists. Namely, there the activists hear lectures and readings on themes in prospect for lessons, widen their knowledge and skills in the area of party-political work, exchange experience. However, it must not be forgotten that seminars are useful only when thoroughly prepared.

For example, the seminar of the party organization secretary in a guards tank unit (decorated in memory of the Banner of the CC, CPSU, Presidium of the Supreme Soviet of the USSR and Soviet Ministries of the USSR), which was held the day before tactical training on forced river crossings, was instructive. The unit commander gave the introduction. He talked to those who had gathered on the duties of the coming lessons, on the importance of tanks forcing rivers underwater during the offense, shared his experience, and set tasks before the organization secretary for each stage of training. The deputy political commander spoke in detail on the form and content of party-political work during the lessons. He underlined that militancy of the party organization is based above all else on high consciousness of party members, their zealous attitude toward service, personal excellence in fulfilling duties, ability to enthrall komsomolists and all troops. Subsequently, the unit engineer, chemist, and doctor took part with short reports on their fields. Party activists learned much of value on the properties of the river as an offensive area, on possible areas of enemy nuclear attack, on methods of crossing, and on safety measures during underwater driving.

At the end of the seminar, the participants became acquainted with the organization of party-political work concerned with underwater crossings. The secretary of the party organization was shown leaflets and pamphlets that would ensure sub-unit agitation. Then they listened to the experienced secretary of the company party organization speak on measures to be implemented in lessons on sealing tanks. It was useful to hear about his ideas on practical lessons for preparing tanks for underwater movement. In a natural, business-like manner, party activists reviewed how best to organize educational work, attain a leading role for communists and komsomolists during tactical training in forcing water barriers.

However, it must not be thought that during such circumstances the preparatory period for tactical lessons is short. It is not always possible to conduct seminars on a given situation. In such a situation it is more expedient to instruct party and komsomol activists on their duties. This may be done through individual or group discussions held spontaneously in the crew, detachment, section, or platoon.

Experience shows that maintenance, sweeps, strategy, continuity, and effectiveness of party-political workers in forcing water barriers depends to a great extent upon the actions of party and komsomol activists of platoons and companies. Therefore, party and komsomol bureaus (committees)

concentrate attention on preparations of the secretary, members of the bureaus of the party and komsomol organizations, party group organs, komsomol group organs, agitators, editors of military leaflets, members of Lenin Room councils, and other activists. Each agitator, as he should, guarantees vital materials for conversations and readings (magazine and newspaper articles, brochures on military and political themes, booklets). Sometimes these materials accurately are filed in the agitator's documents case, but if they accumulate much, the a map case is filled. Agitators inform on the procedure of receiving magazines, newspapers, and letters during training. They advise on how best to explain military duties to the crew, when personnel must be acquainted with the latest news, how to study the attitudes and inquiries of the troops and give contemporary replies.

Party and komsomol meetings are a more active school of education of communists and komsomolists and of their mobilization to attain successful solution of the duties of tactical studies in forcing water barriers. They help to clearly determine the duties of organization, to mobilize each communist and komsomolist to skillful actions during tactical training. Well prepared meetings were and remain effective forms of moral-political and psychological preparations of communists, komsomolists, and all personnel for lessons and battle. There is no derth of examples from the Patriotic War to confirm that even during extremely limited periods of time, whether in training or war, party and komsomol organizations found time to gather communists and komsomolists together in order to consider their duties and take concrete decisions briefly together.

When the fascists surrounded the Brest Fortress and presented her with an ultimatum, given on one hour's notice, communists of the heroic garrison decided to discuss it in a party meeting. All the defenders of the fortress came to this meeting. They vowed to fight to the last drop of blood and kept their party word.

Another characteristic example.

...In the hour when Hitler's troops began the 12-day attack on the line defended by the guards of colonel L. N. Gurtev at Stalingrad, a komsomol meeting was held in one of the units. Here is the resolution of this meeting:

"Heard: On the conduct of komsomolists in battle.

Decreed: In the trenches you may die, but do not leave with shame. And see that your neighbor too remains at his post.

Question to Speaker: Are there any valid reasons for leaving your firing point?

Answer: From all justifications presented, only one will be accepted: death!"

Party meetings conducted the day before tactical training, as is correct, are strategic, but concrete decisions are made. Here is now a party meeting in a battalion where the secretary of the party organization was Master Sergeant

Shutov was conducted. The communists heard a speech by the commander on the duties of communists in preparation and implementation of tactical lessons in crossing water barriers. The participants brought concrete proposals that were incorporated on the spot into party meeting resolutions. Communists Satarin, Popov, and Bayrachnom were charged with talking with crews and explaining to tankers the peculiarities of accomplishing long marches in expectation of battle, actions during atomic attack, procedures of preparing machines for underwater movement. The meeting approved of the initiative of communist Dashtinskiy, who proposed improvement of the driver-mechanic breastplate switch. The decision obliged communists to participate in preparations for and implementation of company komsomol meetings, including some who would make speeches. The party bureau was charged with organizing meetings of personnel of the battalion with veterans of the Great Patriotic War. All communists, it was stated in the resolution, should be continually in a crowd of people, know their attitudes, achieve good organization and study procedures, be ready in case of the unexpected to substitute for driver-mechanics and thus give them a chance to rest before forcing rivers. All measures projected at the party meeting were implemented during training and promoted the successful conclusion of battalion duties.

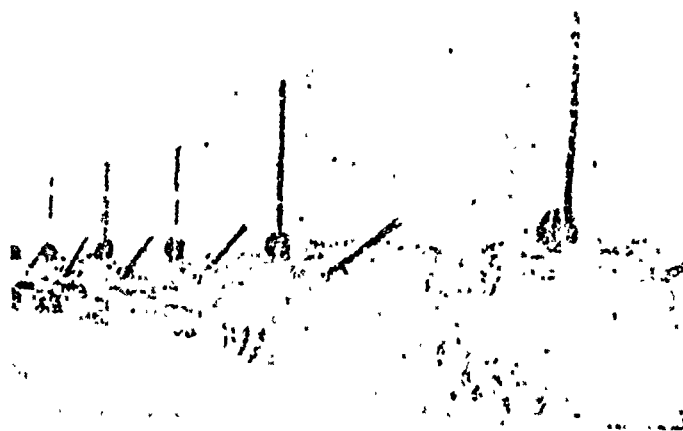
Of course, the situation can get so serious that there is no time for preparation and holding of meetings. In such a case a strategic meeting of communists can be held, at which the commander, deputy political commander, or the secretary of the party organization explains training or military goals, appeals to communists to carry to fulfillment their duty with feelings of high responsibility, and inspires all with words and personal example to follow the commander's orders.

The communists and komsomolists of the tank battalion of Major V. Masenko (Red Banner Dalnevostochnyy Military District) during tactical training in forcing rivers.

...It is difficult to move tanks through the far eastern taiga. The country is hilly and covered with knolls. Dense shrubs and the stems of wild grapes obstruct the working parts, impeding movement. War machines would rush onto what appeared to be a dry hill, only to find a marsh. The tank battalion, performing a deep turning movement in its pursuit of the enemy, broke through the taiga and rushed past hillocks. But a river flashed ahead. Delaying to let sappers drive against the bridge meant the loss of precious time, sacrifice surprise, and give the enemy time to strengthen himself at the water line. The commander decided to force the river with tanks along the bottom. Reconnaissance forces reported the river depth. They would have to seal the tanks. The tankers worked quickly. The communists and komsomolists serve as examples. They make up the majority in the tank crews. One after another, the ventilation pipes are raised on the machines. And the tanks move toward the river. The rapid current does not scare the driver-mechanics; they superbly handle the difficult situations. G. Filchakov, S. Morozov, N. Nagnibede, and many others demonstrate high class driving skill under the water. All the battalion tanks quickly come out on the enemy shore, Rapid advance follows.

Successful actions by tank crews in tactical studies and during under-water crossings are the result of laborious work by the battalion officers, party and komsomol organizations as in the process of teaching personnel or preparing for tactical lessons. The battalion deputy political commander A. Mishtenko and the battalion komsomol organization secretary Master Sergeant A. Mernym helped the company secretary organize concrete planning of work and instructed activists. At this time komsomol activists attended a seminar where the unit commander and secretary of the party committee talked to them. Technical service officers helped the seminar participants study some specific questions of the overcoming of water barriers in tanks.

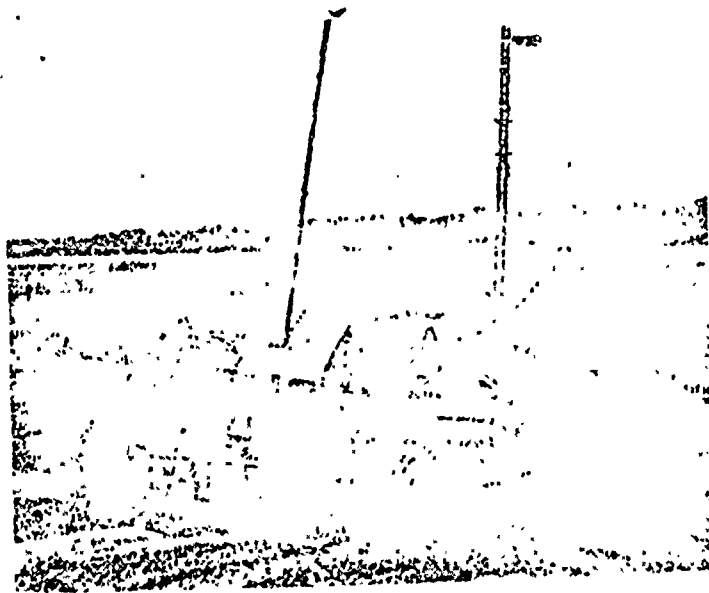
In the political-educational work komsomol activists widely propagandize the magnificent feats of far eastern troops, the heroes of Volochayevki, Khazan, Port Arthur, and the Kuril Islands. The battalion troops gave assurances in meetings that the magnificent military tradition would be upheld and that the far eastern lines would be vigilantly protected.



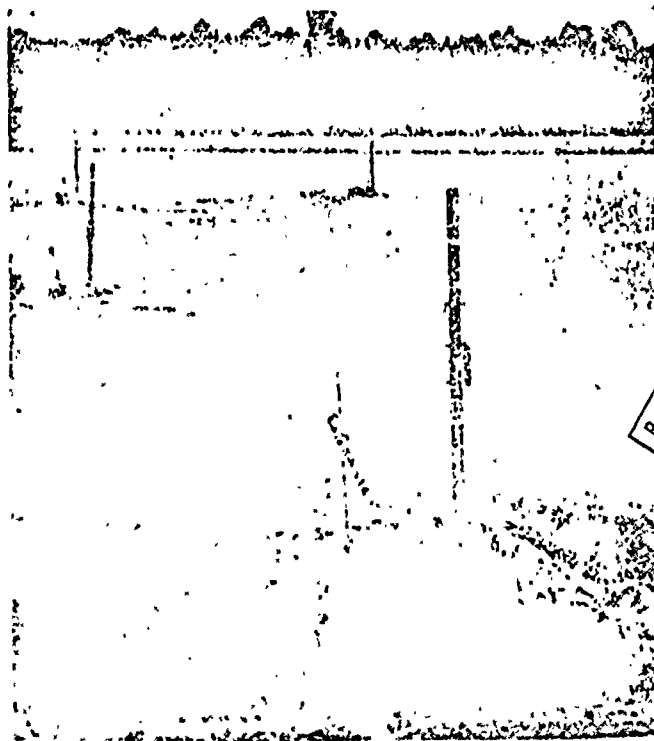
Tank column before forcing water line

Successful implementation of tactical training, as is known, is unthinkable without good material-technical security supported by clear and regular communication units. It is therefore important that commanders and political officers be concerned with readiness for sending out repair detachments, medical units, field kitchens, fuel and lubricating materials, and recharge units. Attention is required by the machine's driver, on whom depends the success of the operation. Personnel of food, water, fuel, ammunition, and supplies must be ready for quick medical aid when needed.

Field exercises of tank and other units are carried out in accordance with their normal distribution, in another rayon or even



A terrible war machine with a cannon on
a trailer begins to cross a river



Reproduced from
best available copy.

Tanks go underwater

a different oblast. Military experience shows how advisable it is to acquaint personnel in advance with the political-economic situation of the rayon on whose territory they will hold manoeuvres. So information on the area is drawn up and agitators or political workers of the unit are taught it. The basis of the information is data received from the party rayon committee: population data, industrial and agricultural resource information, interesting historical events, etc. To interpret this data the personnel must have a feeling of responsibility for their conduct, a cautious attitude toward the fields, roads, forests, populated areas. Each one begins to understand more deeply that he acts not in an abstract study area but in a definite region where Soviet people raise bread, manufacture, build schools, feel concern for the organization of roads, crops, towns.

..."Thunder!" the duty officer reported to the regiment commander by telephone.

"Alert!" the straining voice proclaimed to the men in the barracks.

"You are called to headquarters," whispered the officers on staircases of the houses they had been sent to. And the sleeping military town came to life. The barracks doors flapped. Soldiers and sergeants ran to parade. Master sergeants passed out weapons. Driver-mechanics, straining rapidly into overalls, rushed to the motor pool where the tanks stood. "Faster, faster, faster..." they heard on all sides. Drill or war? Who knows? Now only one thing matters: start the tanks faster and get the transport machines moving in order to reach the assembly at the set time and fulfill the mission.

It is apparent from the journal of the deputy political commander officer A. Koval, who later became a higher official, how events developed from then on.

"First Day. At dawn the unit had an alert. On arrival at HQ, the situation was specified, and we went to the motor pool. Here the secretary of the party committee gave a brief demonstration. I met the commander. It was agreed that I will drive to the embarkation point. G. Ielnikov's battalion arrived there first. Before loading I met with the battalion deputy political commander, party and komsomol secretaries, agitators, and editors of military leaflets and instructed them on the work that was ahead of us while going along to the railroad. Sergeant A. Kl nikov expressed uncertainly that rapid marching would be possible at night. It is absolutely necessary to talk to him. I talked with communists in the company of Cpt V. Chesalin and helped the secretary of the party organization give a mission to each man. I recalled the party information once again. I met the personnel guarding the line and called on them to perform vigilantly. I inspected the strengthening of the machines with the battalion commander and observed the loading of equipment and placing of personnel. I am going with the first line. We went around to all the wagons on the path and reported the latest news and talked with people. Then I spoke with the secretary of the primary party

organization on maintenance, form, and methods of party work during training.

During the evening we arrived at the unloading station. Everything was going well. Short instruction to the driver-mechanics and back on the road. I go ahead. At the fork in the road stopped and watched the passing columns. Company commanders reported that all was in order.

Second day. Arrived at training area. Not far from the center of the rayon. Met rayon committee of party, informed them of our arrival and invited the rayon committee secretary to visit the unit in the name of the political deputy chief to be presented to the unit. The secretary agreed. Having returned, I met the commander of sub-units and laid before them the duty of maintaining discipline and organization. Participated in meetings with personnel. Discussed treatment of company troops commanded by officer A. Lobod. The meeting went well. Ten men took part. They had a good attitude. In the decision it was noted: maintain initiative of the tankers of an excellent company and conduct lessons with high appreciation of their value.

I talked with A. Klenikov. It seems that I convinced him with facts and calculations. The successful conduct of the march fully proves my correctness.

I went to the chief's political deputy. Reported on the party-political work that had been done, on the best men, on the political-moral condition and the attitude of the troops. He asked that I have a leaflet printed with an address to the troops of the best company. Returned to the unit billets. Reported to the commander on the meeting with the political deputy chief and the rayon committee secretary. Then went to Cpt I. Nikitskiy's company. Told personnel about the arrest of two reconnaissance-saboteurs and called the people to heightened awareness. Observed a crew (commander - Sgt S. Golovkin) after a poor camouflage. The mistake was corrected in front of me. Talked with the agitator P. Fesenko. Good communist. Does everything with spirit. There should be more such agitators.

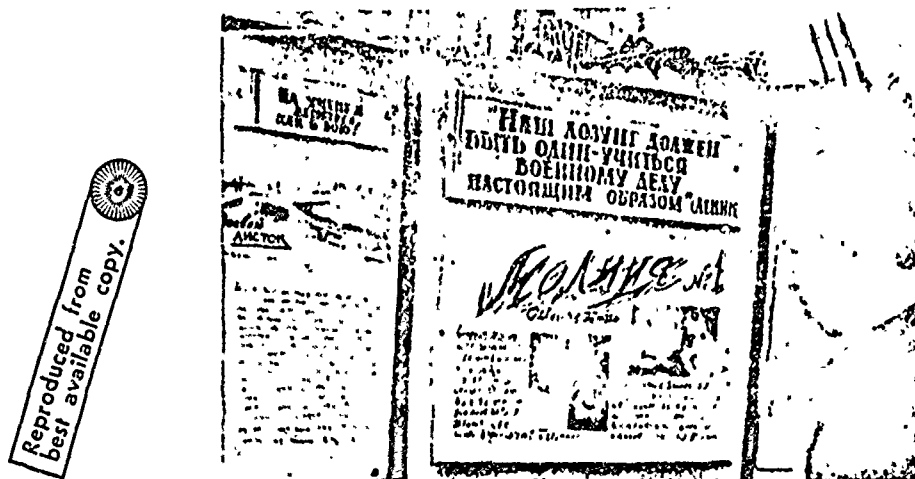
The secretary of the rayon committee of the party came. Met people. The troops listened with great interest to his story of the rayon workers and their successes in the struggle for a large harvest. The meeting went well.

Attached and support units arrived. I met with the commander and political worker, interested myself in them, informed them of their duties, of what had been done in the regiment. Discussed the processing of mutual information.

Third day. Met the political workers, briefly told them of work in the units of teaching, defined their positions and told them how to maintain communications with me (on this we had spoken earlier). Then I reviewed what had to be done before starting the march with the secretary of the HQ party organization. Turned special attention to the preservation of secret documents.

Went out to the battalion of Lt Col V. Timofeyev. Met the commander and

units on the opposite shore. The chief of the club photographed the best crews. They will necessarily be put in the photo magazine.



At the bulletin board of the field Lenin Room

The chief of the political department and inspector of political management of the district arrived. Reported on everything and received the task of writing about the experience of party-political work in the river forcing period. Although it is difficult to write - moving all the time, you know - I must. I must write about officers, communists, and komsomolists acting energetically, skillfully, with strict organization. Wonderful people. With such people it is agreeable to work, serve, and, if required, go to war.

The crossing has begun. All is proceeding normally. I notice one detail. The commander of company Cpt V. Chesalin, having explained that the detached driver-mechanic of the next sub-unit was not taking the speed of the current into consideration and was being diverted from the route, quickly advised the driver-mechanic and tank commander on how best to take the tank through the water. Undoubtedly, he was to the point. Tank crews of the company successfully drove their machines underwater. When the captain spoke briefly with his subordinates, I thought that this was the strategy, flexibility, precision, and continuity of political work. This is a lesson for those who doubt that political work can continue even at the point of embarking for a river crossing. If you but glance in on a tank crew, watch their activities, hear how the tank commander, a party activist, uses personal example and warm words to the other tankers, then it will be obvious that party-political work can and must continually be carried out.

On the opposite shore in the area where tanks were unsealed a short rest was taken. A list of those who excelled was made up; private conversations took place. The club chief brought magazines and letters. The

In the dynamics of tactical training, the forcing of water barriers, especially by tanks under water, is a tense and complex stage. Commanders and political workers must not forget that the slightest error in the organization of the crossing of water lines can lead to a case of a tank stopped under water, to loss of priceless time, and, as a result, to a lessening of the tempo of attack, to loss of surprise in actions. Only thorough preparations for forcing rivers, strict observation of the rules of safety, and exact fulfillment of rules of underwater driving allow breakdowns and other such situations to be averted.

As is known, party-political work in tank units during forcing of water barriers has its peculiarities. Forcing, as is right, is preceded by a march and the conduct of military actions by day and night in any weather. Not having succeeded even, as they say, in straightening one's tired shoulders, tank crews receive new tasks of overcoming water barriers.

In mentioned command areas the tank crew must prepare machines for underwater movement with the expenditure of great effort and with little time. One very important consideration must be allowed for at this time. In the process of tactical training as a result of the lengthy efforts of moral and physical powers, crewmembers inevitably feel fatigue, leading to a definite change in psychological processes such as attentiveness and memory. How can this be explained? Under conditions of military training, the crew cannot devote all its attention to any one activity. Driving the tank, maintaining internal and external radio communications, controlling instruments, and other actions - all of this is directly related to attention.

Premeditated attention and concentration of psychological activities of tankers are vital preconditions for correct and rapid fulfillment of the actions required for the surpassing of water barriers. After days of military training, crewmembers may lose powers of concentration, experience failings of memory, and make more mistakes. These changes in psychological processes are particularly frequently observed in driver-mechanics. Therefore, during the overcoming of water barriers by tanks underwater, detached driver-mechanics sometimes forget to strengthen the landing hatch or make mistakes when driving with the directional gyro, or in maintaining radio communications with the director of the crossing. Such forgetfulness and mistakes can bring flooding of the tank or deflection from the set route.

Therefore, commanders, political workers, engineer and technical personnel concerned with the preservation of physical strength of driver-mechanics must conduct vital work in the maintenance of moral spirit on the part of the tankers; they must strengthen the party-political influence on each crewmember and thoroughly control the quality of sealing.

Even more. In the tank the crewmembers are isolated from the rest of the world, with no connection but the radio or visual signals, and when they are under the water only radio signals. Naturally, under such circumstances political-educational work cannot rely upon speech.

So how can such work be carried out?

A tank crew is like a single unit of men and machine, with the men turning the potential military power of the tank into real strength. In the final analysis the skillful actions of the crew and the faultless working of the machine are the focused result of all the varied phases of political work and tense military learning and preparation of weapons and equipment which was carried out earlier. Therefore, it is very important that the political influence over the crew not be weakened during practical actions - on marches, in battle, during water crossings. The key to success involves purposeful educational work of commanders, political workers, all field team leaders of party and komsomol activists, as well as the personal example of communists and komsomolists - all resulting in the ability of crewmembers independently to resolve given duties. Mass measures yield place to such methods of work as personal meetings and conversations of commanders and political workers with crews (during halts on marches, in preparation areas of tanks for forcing rivers, during sanitary work after a nuclear attack by the enemy, etc.), the personal example of communists, komsomolists, and commanders on the battlefield, short appeals, and radio programs. The various leaflets of crewmembers that turn their attention to more complex questions and explain procedures under special conditions (night marches, conditions of great excitement, during firing, or when moving underwater, etc.) are a great help to activists.

The meaning of personal example of officers and sergeants, communists and komsomolists in mobilizing all troops, in cementing the exceptional greatness of the greatest soldiers in their ranks is shown by the following quote. "...If a single order is relied upon, without the people to whom it is directed being prepared morally for its fulfillment," writes the twice Hero of the Soviet Union Marshal of the Soviet Union V. I. Chuykov, "that ferry will be loaded slowly, and at the first shot, the people will abandon it and go not into the heat of hell, not into war, but back to the shore from which it had only just cast off. How can this be? In such a case neither placards nor slogans help. Someone must give a personal example. In each company, in each platoon is a man who starts swimming and leads people not back but forward, to the shore of the flaming town...And so is the case not only in companies and platoons but in crews also. These men were communists and komsomolists. Carrying out the commander's orders, they showed how to act in such a situation by personal example."¹

In the years of the Great Patriotic War personal examples of courage, initiative, and heroism by commanders, political workers, and activists played a huge part in the attainment of victory over the enemy.

Here are several characteristic examples. The deputy political commander of battalion Guards Senior Lt D. P. Abalyayev, komsomol worker Senior Lt I. M. Gusev, Master Sergeant V. A. Danilov, chief of the political department of a tank brigade Guards Lt Col A. P. Dmitriyev showed exceptional intrepidity and military mastery in their daring forcings of water barriers. The Soviet Homeland honored them with the high medal Hero of the Soviet Union. Lt Col and later Lt Gen A. Dmitriyev had a great and difficult path along the front. He

1 V. I. Chuykov. Nachalo puti, (The Beginning of the Path), p 317.

participated in the forcing of the Dnieper and Vistula, in the freeing of Kiev and Prague, and in the storm of Berlin with a tank brigade. The spring of 1945 was especially difficult for him. The tank brigade in which he was chief of the political department overcame stubborn resistance of Hitler's soldiers and battled its way to Berlin. Day after day the ranks of the tankers thinned. Distaining danger, under a hurricane of fire from the brutal enemy, communist A. Dmitriyev roused the troops and commander to exploits with his courageous personal example and gave them confidence in a quick victory. During the forcing of the Ness and the Spree, he participated in the military actions of the brigade until the last tank had crossed to the opposite shore.

In military situations the political worker is constantly concerned about the leading role of communists and komsomolists in forcing water barriers. Every possible time for talking to them, explaining what was needed and giving missions was used. All this provided full freedom for the development of such magnificent qualities of Soviet tankers as infinite devotion to the Homeland, party, government, and people; faith in military oaths; high military skill; heroism; discipline; military comradeship and others.

During the last few years communists and komsomolists and all our forces have been increasing the revolutionary traditions of the party and people and the military tradition of the valorous Soviet Armed Forces.

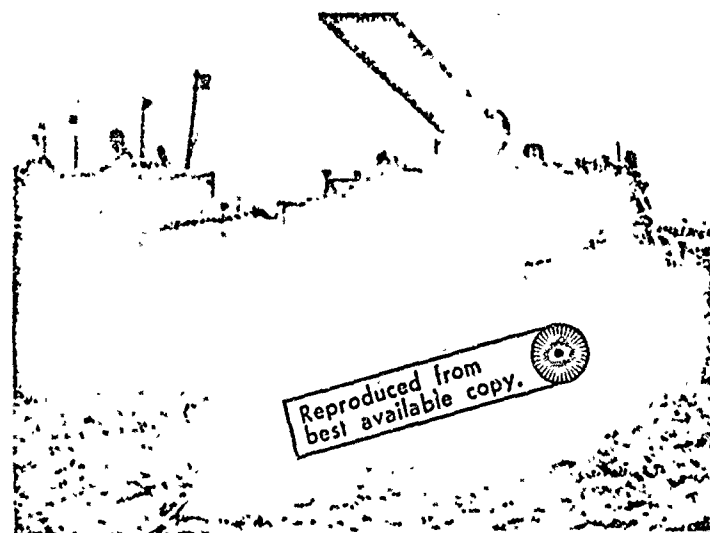
The last stage of tactical training passed. The military machine went to the water barrier. Caterpillar tracks were seen on the ice. The driver-mechanic directed his machine exactly along the tracks, but in the middle of the river, the ice cracked and the machine fell under the water. The crew left the breakdown tank safely. The tractor came quickly. But how could the tow lines be attached? Communist Private First Class N. Ponomarev went to do this. But moving the lines underwater was not so easy. Scorching cold bound his body. Komsomolist Ye. Presnyakov went to help the bold spirit. He too sank under the icy water. The guards moved off with great difficulty to hook the tow lines. But one line did not hold and broke. Tankers again entered the icy water. This time all went well; the war machine was saved.

When the driver-mechanics of one unit became very tired after a long night march in the rain during training, many commanders, political workers, engineers, and technicians temporarily substituted for them. They sat at the wheels and lead the machines forward. Officers B. Belik, M. Gornyy, and others lead their tanks excellently.

Skill and ability of communists and komsomolists in giving personal examples, setting the tone of soldiers' actions in the most tense moments of battle, explaining tasks to comrades, and in showing how best to implement their knowledge are the tested methods that help commanders and political workers to mobilize personnel to fulfill military missions.

The party and komsomol activists are in the first rank of helpers of commanders and political workers during the forcing of water barriers. They

are the first ones to respond to the commander's signal and lead tanks under water, swiftly attack the "enemy," duplicate commands, lead ranks forward, help young soldiers understand the mission, explain the sense of occurrences on the field of "battle", and the first to start removing the aftereffects of a "nuclear strike." In a word, their selfless actions lead to those of others. In order that active support in deciding military-training duties be received, commanders and political workers continually associate with activists, give them duties, encourage their actions, and share with them their experiences in education and training, in short - their knowledge. They meet the activists, interest themselves in their attitudes and successes, and advise on methods of raising aggressive spirits. To find time during training for meetings with activists, whether communists, komsomolists, or non-party soldiers, for talking with them and for giving them duties, means being concerned about things.



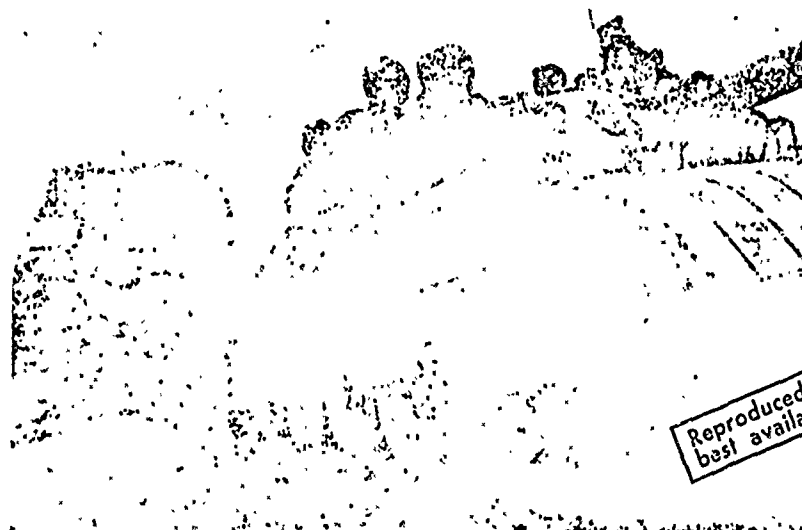
Powerful evacuation rescue equipment is always in a state of military readiness

In the short minutes preceding the start of the forcing, especially in the area of tank preparations, officers, sergeants, and soldiers have the socialist obligation not only to act efficiently but also with tactical skill, achieving model fulfillment of duties. Political workers, secretaries of party and komsomol organizations, party group organs, and komsomol group organs help them, specify mission of communists and komsomolists, and popularize socialist competition.

The experience of many of our tank units demonstrates that socialist competition gives the best results if skillfully organized. The commander, who is guided by the party and komsomol organizations, plays a leading role in this area. After all, he knows best of all what the strength of the personnel must be turned to in a given moment, which obligations must be enforced in order

superbly to carry out educational-military duties. Company commander Cpt V. Makarov, awarded the Order of the Red Star, is an example. At each tactical lesson he instructs activists on how they must carry out missions of competition during forced crossings. Their duties were as follows: seal the tanks quickly, do not allow breaking of the rules of underwater driving, avoid all underwater halts. The crew which fulfilled these duties exactly received the right to carry a little red flag on its turret. At the end of each stage of training, the company commander sum up, awards the victory, and propagandizes their experience.

In order to teach personnel to act under conditions resembling war, tactical training is conducted with the maximum of moral and physical strain, without indulgence and simplification, in situations such as might be encountered in war.



Reproduced from
best available copy.

Tank overcomes contaminated area

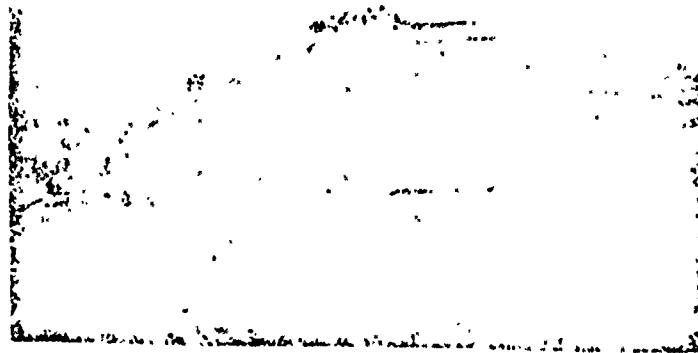
The duty of political workers and party organizations is to help the commander with decisive suppression of the least attempt to make training conditions easier, to lead a struggle of principles against simplification, and sometimes to shield people's false anxieties from others.

Man is the decisive strength in contemporary war. On the field of battle he who skillfully wields weapons, equipment, and who is stronger of mind and body, will conquer. These qualities are formed by maintenance of work in moral-political and psychological preparations of personnel during tactical training. Lessons and field problems resemble the character of contemporary war to give personnel good moral-political and psychological tempering.

In tank units and sub-units a great deal is done in order that lessons

be as similar as possible to real war, in order that fulfillment of military training duties be connected with definite risk and aid the development in soldiers, sergeants, and officers of steady habits and a familiarity with great physical loads and a durable state of tension. Thanks to this testing of the troops' moral-psychological condition, their will is strengthened, they become bold, decisive, independent, and self-controlled. This is achieved during the forcing of water barriers with military rocket launchings; the firing of cannons, tanks; the use of armored transports and PTUR's, and bombing strikes in intervals between battles in the immediate vicinity of the troops. The forcing of water barriers either on the bottom or floating has also received wide use, along with overcoming obstructions, areas of contamination and fire, and struggle with incendiaries, etc.

It is difficult for tankers continually to maintain the needed speed, aim their firing, manoeuver, and, when they meet the "enemy", to sense the direction of training projectiles or see and hear grenade explosions. Under such conditions, each one experiences great tension and must steel his will and self-control in order to fulfill the set tasks. Introduction of the element of danger into training sharply raises the effectiveness of field exercises and has a favorable influence on emotion - tempering of the will of the troops.



Having forced a water line, the tankers advance

Now it is difficult to find tactical training with the overcoming of water barriers in which new experiences would not be found. Unfortunately, during the organization of party-political work on such lessons, detached commanders and political workers still simplify and water down the content, often reduce actions to explanations of directions and replace instruction with leaflets. Of course, one must not resign oneself to such negative facts.

It is important to search for and creatively use various methods of moral-political and psychological preparation of troops, build variety into all educational work, take into account the individual peculiarities of the troops, skillfully use rich experience gained during war years. Each soldier, you know, has his own character, his own reactions to surroundings, his own level of preparedness. In different ways each man displays his knowledge and skills, overcomes one or another military or training situation or psychological barrier. For example, study and propaganda of experience of political-educational work gained during the Great Patriotic War as well as such studies as the "Dnieper," "Dvina," and "Bratstvo po oruzhiyu" (Brothers Under Arms) allow the widening of the arsenal of means for influencing ideas of the troops. In any unit library commanders and political workers, engineers and technical personnel, staff officers, communists and komsomolists can find literature supporting these contentions and vital examples they can use in preparing subordinates morally, politically, and psychologically to meet real danger.

In view of these questions it would be of much interest to have read these books: Mikhail Brafina Ot Moskvy do Berlina (From Moscow to Berlin), Yu. Zhukov Ukroshteniye "Tigrov" (Taming of the Tigers), I. Levchenko Povest' o voyennyykh godakh (Tale of the War Years), as well as the memoirs of our fighting leaders and political workers. Rich materials are contained in historical service lists of units, museum relics, and war glory rooms. Meetings of troops with veterans of the Patriotic War can be equally worthwhile.

However, these possibilities during training are unfortunately not sufficiently used. Take, for example, the actions of the tankers during preparations for underwater movement. Usually they work in peaceful situations, without "enemy" action. If the situation is complicated (explosion, firing, smoke screens, "sniper" attacks, etc.), tankers will receive amplified moral-psychological hardening.

Contemporary war, if unleashed by the imperialists, will be a terrible test of all moral and physical strengths of man. The use of weapons of colossal destructive power, in particular at water lines, will put servicemen under a great psychological and moral stress. Under these conditions, along with displays of heroism, panic is possible. Therefore measures that warn of cases of weak spirit, that strengthen and develop boldness in the skillful use by the troops of all means of destroying the enemy are of great significance. Political work is used to explain to personnel not only ways of individual defense from mass destruction weapons but also to underline the importance of decisive and skillful actions in carrying out military duties, of the well-timed use of nuclear strikes by our own forces, of the preservation of the aggressive spirit.

...During tactical training in a tank battalion crossing a water line an atomic strike was carried out. The deputy political commander went to the area quickly with a group of officers. Having estimated the situation and counted the "casualties," the political worker took measures to restore the war-capability of the battalion. First of all the men were taken to a safe place. From the unharmed soldiers, sergeants, and officers and fur -

tioning machines new sub-units were formed, commanders were chosen, communists and komsomolists were uniformly distributed among the crews, and party and komsomol group organs were named. From those neither injured nor forming part of the new crews, a command for evacuation of the "seriously wounded" was formed, the sanitation point was equipped, and chemical and radiation checks were conducted. Party activists were given the mission of leading explanatory sessions among personnel on the necessity of maintaining strict defense, on the preparations for forcing the river and continuing the offense. After some time tank sub-units, united under the command of the political worker (the battalion commander was "dead"), left for the river and successfully crossed it.

Under the conditions of contemporary war, the position of troops under enemy nuclear attack would be the worst. Great strength is required from the commander and political worker in order to restore unit war-preparedness and the physical strength of the troops, develop initiative for continuing to fulfill military duties, and guarantee victory.

Favorable conditions for political work in preparing tanks to overcome water barriers are created at the crossing site. Of course, time is usually very limited here; crews must quickly install equipment and continue to fulfill their military duties. But the known flexibility and skill of political workers can provide essential aid to commanders in this area. Here is one instructive example. While tank crews camouflaged their machines near a grove, prepared equipment for sealing, and got lifebelts and diving equipment from the supply point, the deputy political commander went to the diver-reconnaissance troops. They were to find out the river depth, current speed, shape of the river bottom, and, with the sappers, determine the best place for entering and leaving the river. The final goal was to outline the route for the tanks under the river. The political worker turned the attention of the reconnaissance forces to their responsibility for their duties and reminded them of safety measures. During this time he slowly spoke to the reconnaissance troops on the heroism of the exploits of commander Nikolay Korniyenko during the Patriotic War... In 1941, having broken through to Crimea, the German fascist aggressors menaced the district of our units at Arabatskiy. The defenders of Chongar obtained important intelligence on the enemy's intentions. But 18 kilometers of Sivash had to be crossed. There were no paths. The communist and reconnaissance soldier Korniyenko undertook to carry out this task. His path was hard; he swam 11 hours, guiding himself by the stars at night. When he was very tired, when it seemed that he was on the point of running out of strength, he rested, floating motionless on the water several minutes, and again swam. At dawn Korniyenko reached shore and delivered the packet according to instructions.

At the same time, while the deputy commander talked with the reconnaissance troops, the propagandist of this unit carried out work with soldiers and sergeants of the evacuation-rescue groups, and the VPKSM¹ secretary talked with komsomolists of commandant's service, in the area of the crossing, visited the technical control point where the quality of sealing of the tanks was tested. He called on the troops to fulfill excellently their duty. The secretary of the unit party

*V: All-Union Lenin Young Communist League.

committee was in the sub-unit where preparations for the crossing were being carried on. At this time a radiogram was received from the unit commander stating that the motorized-rifle sub-unit, acting with tankers, would cross to the opposite bank and push on into "enemy" territory and the reconnaissance forces would prepare the tank route. The political worker immediately used this communication in explanations, in order to hasten equipping of tanks for underwater driving. Being at the machines, he talked to tankers, and sometimes showed how to strengthen the air pipe, put valves on the exhaust collector, screw tight the numerous bolts. At the same time the troops heard the latest news, had the procedures of fulfilling their duties explained. Having finished his work, agitators G. Stolyarov, I. Muravin, S. Borisov, and V. Timoshenko read a leaflet on safety measures to their comrades. The club chief gave the crews magazines and the political worker took some photographs of the best teams as material for the next photo magazine.

The tankers of Cpt Yu. Korolev's company crossed the water obstacle. The unit commander congratulated the personnel of the company by radio and declared his gratitude to all. This news quickly flew around to other sub-units, and the success of the best comrades strengthened the confidence of all the troops in their ability to cross the river.

Along with propagandizing the leading experience, commanders and political workers and party and komsomol organizations struggled during training with shortages and dereliction of duty in the work of detached servicemen and warned of possible mistakes. Situations occurred when some crews forgot to secure the hatch, seal the antenna lead-in, etc. Inexperienced driver-mechanics did not put the manual handle feeding fuel in continual revolution, fixed the directional gyro wrong, or lead the tank under water on a raised crossing. To all of this commanders and political workers reacted with well-timed and important help, quickly giving lessons to the men who were about to cross the water barrier.

During organization of party-political work at crossings it is useful to use examples from the military past of the Soviet Army. If training is carried out on land that has seen war, the soldiers await a story from the political worker on how the military actions there were conducted, or how our troops did in battle.

In the years of the last war military oaths or the handing over of komsomol cards were spreading forms of political work that became accepted by young soldiers in places covered with legendary glory and the heroic past of our people: at Brestskiy Fortress, at Mamayevyy Burial Mound, at Bonivur Grave, and at Volochayevskiy Hill. The possibility for interesting discussion on the heroic events in memorable places during the Patriotic War years can occur in tactical training.

...A tank column goes along the Volokolamskiy Highway. Ahead are tense days of tactical training, and while there is some time, the commander decides

to stop the column when he sees written on a roadside post: Dubosekovo Departure. Forty men here fought a severe battle at the farthest approaches to Moscow with the fascist aggressors of the famous Panfilovskiy Division. The guards accomplished immortal feats at this line with political instructor V. Klochkovym at their head. The halt took only a short time, but the commander's story deeply affected the tankers, and they assured him that in training they would be worthy of the glory of their fathers and older brothers.

Another column of tanks stopped at Kashino Village. V. I. Lenin and N. K. Krupskaya came here in 1920 at the opening of the first rural hydro-electric station. The tankers were met by old-timers who had then seen Vladimir Ilyich. They spoke with sincere conviction of the growth of cultural and spiritual sides of the lives of the kolkhoz workers, on the successes of agricultural workers. How appropriate this was on the eve of tense training to give a lifegiving touch to the past of our Homeland! The clear manner of our leader V. I. Lenin's work and the heroic exploits of the soldiers at the front inspired Soviet tanker-trainees to overcome the most difficult tasks with their hearts filled with proud party feelings. The tankers acted skillfully and with great enthusiasm during training.

* * *

Thanks to continual work of party and government on the technical state of the Soviet Armed Might, our land forces have first class, contemporary equipment available. The creations of home industry of tanks capable after short preparation of overcoming underwater rivers and lakes have resulted in the ultimate mobility of Soviet tank forces and heightened their striking power. Water lines can no longer detain the speeding movement of our tanks, can no longer essentially lower the high rate of advance.

Now the underwater driving of tanks has become an integral component of the military preparations of our tank forces. Mastery of the methods of these military activities requires that personnel have high moral-political, psychological, and military qualities, perfect knowledge of techniques, and a basis in diving. A good educational material base, high methodological preparation of officers, daily improvement of training procedures, and quality conduct of each lesson will guarantee the successful teaching of underwater driving to tankers.

Interesting and continual party-political work is priceless for preparing tankers for underwater driving of war machines. Clearly outlining the role of the high rate of offense in contemporary war and operations and knowing the capabilities of tank forces in contemporary fast marches, their fire power, their capability for forcing water lines, commanders and political workers of all levels and party and komsomol organizations must continually be concerned with raising political consciousness of personnel; formulating communist Weltanschauung in the troops; and educating them in the spirit of Soviet patriotism and proletarian internationalism, in the spirit of faith in the requirements of military oaths, revolution, and military tradition.

Raising the feeling of personal responsibility of each communist and VLKSM member for the fulfillment of his duties, organizing socialist competition, commanders and political workers and party organizations use in their work the rich arsenal of forms and means of party-political work, placing around the tank forces the guarantee of continual military preparedness.